DOCUMENT RESUME

ED 131 206 08 CE 007 878

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| AUTHOR | Porter, G. William; And Others |
| TITLE | Data Needs in Vocational Education. "The Development of a Minimal Information System to Satisfy the Needs of Selected User Groups." Final Report. Volume IV. Issues and Recommendations. Reports of the Project EDNEED Conferences. |
| INSTITUTION | North Carolina State Univ., Raleigh. Center for Occupational Education. |
| SPONS AGENCY | Office of Education (DHEW), Washington, D.C. |
| BUREAU NO | V0306VZ |
| PUB DATE | Mar 76 |
| GRANT | OEG-0-74-1654 |
| NOTE | 145 p.; Several pages of the Findings and Recommendations section of the national project report will not reproduce well due to faint, broken type. For related documents see CE 007 876-880 |
| EDRS PRICE | MF-$0.83 HC-$7.35 Plus Postage. |
| DESCRIPTORS | Agency Role; Community Agencies (Public); Conference Reports; Conferences; Data Analysis; Educational Needs; Information Dissemination; *Information Needs; Information Retrieval; Information Storage; *Information Systems; Local Government; *Needs Assessment; State Departments of Education; Systems Analysis; *Systems Development; *Vocational Education |
| IDENTIFIERS | Empirical Determination Natl Essential Educ Data; *Project EDNEED I |

ABSTRACT

Reports of four Project EDNEED (Empirical Determination of Nationally Essential Educational Data) conferences are contained in this fourth volume of a five-volume final report: The national conference, state directors' mini-conference, mini-conference for local employer representatives, and the local administrators' conference. The purposes of the conferences were to (1) review and critique the questions and information elements in the "EDNEED Classification" document, (2) identify issues and problems associated with design, inauguration, and operation of a nationwide system of vocational education information, and (3) provide recommendations as to how the issues and problems identified can be resolved. Conference procedures, findings and recommendations, agendas, discussion guides, and participant lists are included for each conference. (TA) .

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# DATA NEEDS IN VOCATIONAL EDUCATION

Volume IV Issues and Recommendations, Reports of the EDNEED Conferences

G. W. Porter, J. T. Nerden

FINAL REPORT VOLUME IV

Project No. V0306VZ

"The Development of a Minimal Information System to Satisfy the Needs of Selected User Groups"

Grant No. OEG-0-74-1654

Research Project in Vocational Education
Conducted Under
Part C of Public Law 90-576

The project report herein was performed pursuant to a grant from the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors or grantees undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

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March 1976

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## ACKNOWLEDGMENTS

Project ELWEED is deeply indebted to scores of agencies and literally hundreds of individuals who contributed freely of their time and expertise in order that the project could be completed. Many of the persons who rated and checked the Classification document and their respective agencies are listed as participants in the reports of the various conferences. Nearly fifty staff persons from the American Vocational Association; the National Advisory Council on Vocational Education; the National Center for Educational Statistics; the National Institute of Education; the Bureau of Labor Statistics, U. S. Department of Labor; and the U. S. Office of Education reviewed the "Preliminary Taxonomy" and collectively made hundreds of suggestions for its modification and improvement into what became the conference edition of the Classification document.

Of these agencies, the U. S. Office of Education and particularly the Bureau of Occupational and Adult Education deserves special mention. Personnel from every division in the Bureau were involved in some way in the project. Input into major project decisions in the form of advice and counsel is gratefully acknowledged from Deputy Commissioner William F. Pierce, Associate Commissioner Charles H. Buzzell, Division Director Howard Hjelm, Branch Chief Glenn Boerrigter and especially from Jack Wilson, Project Monitor.

Finally, appreciation is gratefully extended to the former Project Director, Dr. Robert L. Morgan, and to the more than thirty present and former Center for Occupational Education staff members, without whose efforts and dedication the project could not have been brought to fruition.

G. William Porter
Project Director

# PROJECT SUMMARY

## Purpose and Objectives

EDNEED I was conceived as an important first step toward the development of a basic information system for vocational education. The project had three purposes: (1) to determine, empirically, the extent to which selected data questions represent the vocational education informational needs of users at the national, state and local levels; (2) to prioritize the data questions according to their degree of relative importance across levels and within levels by use category (planning, operation, evaluation, finance and budgeting, reporting requirements, public information); and (3) to determine similarities in information needs across levels and use categories.

The central premise of the project was that once the information needs were determined and prioritized, a basic core of data questions and associated information elements could be empirically derived which would meet the shared informational needs of the three levels on a priority basis. The size and composition of the core would be a function of the need priority and the amount of resources available for allocation.

The three project purposes were translated into four operational objectives, each of which served to identify a milestone phase of the project. The phases and their accompanying operational objectives are as follows:

Phase I - To identify important questions in vocational education and those information elements necessary to provide answers to the questions

Phase II - To refine the data questions and information elements (identified in Phase I) through the involvement of selected national user groups; to define each information element; and to collect data on national needs.

Phase III - To determine empirically the relative need for each of the data questions (by use category) through ratings by representative state and local data users. To further review and critique the questions and information elements and to identify and provide recommendations for the resolution of problems and issues associated with the future development of a national vocational education information system.

Phase IV - To analyze the ratings to determine priority data needs across levels (local, state and national) and uses (planning, operation, evaluation, finance and budgeting, reporting requirements and public information). To produce a final report of the results.

## Procedures

The major steps in each of the four phases are shown graphically in Figure 1. In Phase I, two approaches to the identification of sources were utilized: first, a literature review and second, direct visitation to various potential user groups. Over 100 individuals representing more than 50 national, state and local agencies and organizations who were expected to have needs for vocational education data were contacted in an effort to identify recurring questions at administrative and policy-making levels. A secondary purpose of the agency contacts was to explain the project and secure the support of agency representatives for subsequent

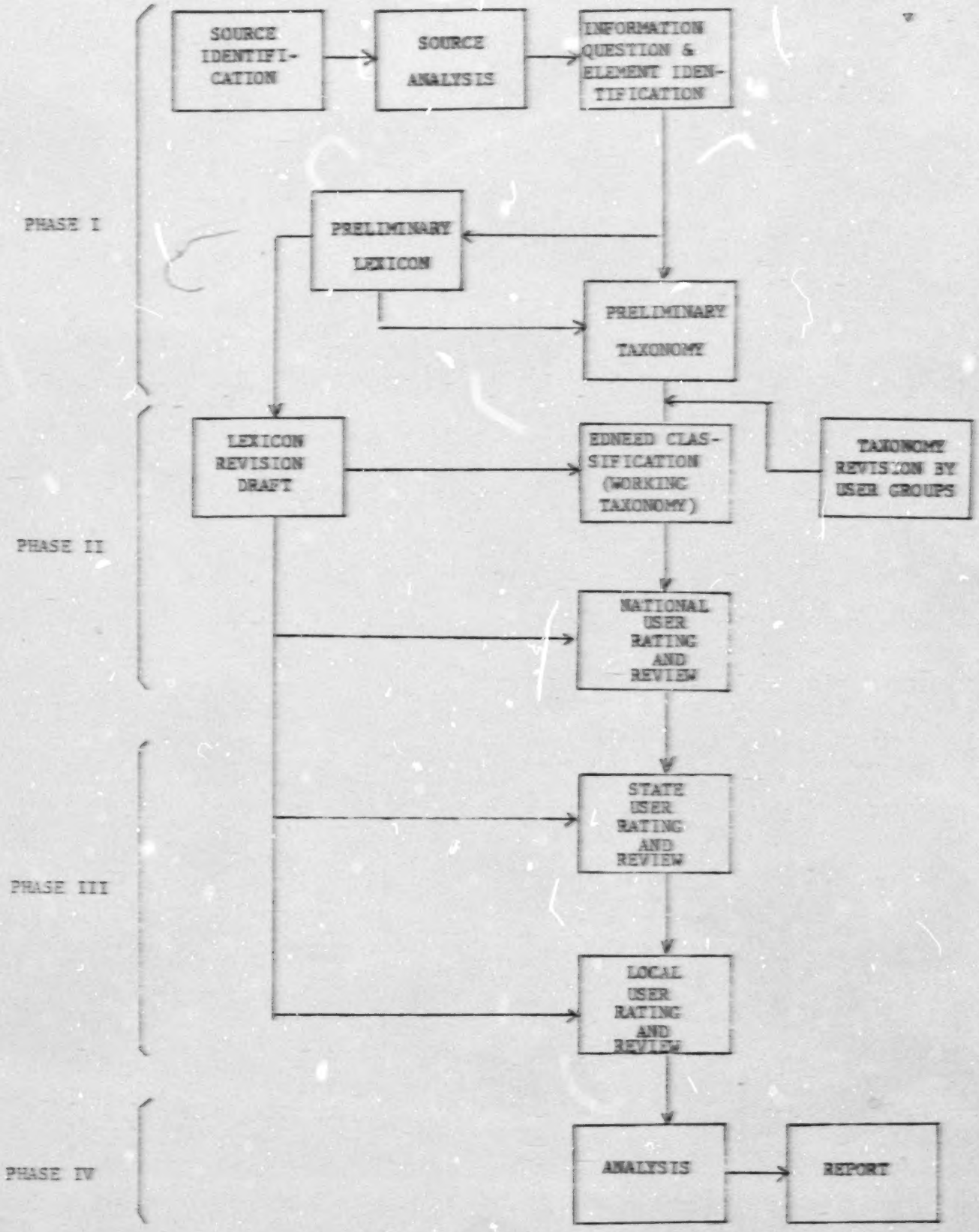


Figure 1. Products and Procedures by Phase

participation in Phase II. To facilitate this purpose a 35mm slide presentation was developed and used widely to disseminate information about the project.

As questions were identified, each was analyzed to determine those information elements from various sources which if known, could serve to answer the questions. Broad questions were broken down into components which could be answered by a single information element or group of information elements. Thus, whether a state provided for, or emphasized, one or more of the many types or levels of vocational education, the information elements were designed to allow for full coverage of elementary, secondary, postsecondary, adult, handicapped, disadvantaged and other specialized offerings.

A detailed taxonomy of information elements of potential utility to national, state and local user groups (an interim report) was prepared and was ready for in-house review in late January, 1975. This draft document, entitled "Project EDNEED: Preliminary Taxonomy for the Development of a National Vocational Information System," consisted of 20 informational files. A file was defined as a collection of similar information elements. The files were in turn organized into five parts or classes to reflect the organizational structure of the vocational education delivery system. Following a rigorous in-house review, the "Preliminary Taxonomy" was delivered in Phase II to representatives of six user groups selected for their centrality to vocational education data needs. An abundance of suggestions were received, focusing mainly in two areas (a) changes in the structure and organization of the document and (b) addition of data questions and information elements.

As a result of this review by the six selected national agencies, an intensive effort was mounted by Center staff to incorporate the suggestions into a completely revised taxonomy in time for review, rating and checking by the conference of national users scheduled for mid-March in Annapolis, Maryland. The revised document was entitled Project EDNEED: Classification of Information for the Development of a National Vocational Information System and comprised Volume II of the Project EDNEED Final Report. Referenced hereafter as the Classification document or the EDNEED Classification, this revised document differed substantially from the original "Preliminary Taxonomy." The five-part division was replaced by a four-level division with connecting files, making the aggregation potential more explicit. The number of files was reduced from 20 to 18, and nearly 100 new information elements were added. The most striking change, however, occurred as a result of the arrangement of the information elements as subtopics or possible answers to data questions. Thus, the conference edition of the EDNEED Classification included 323 questions as well as 2340 information elements. For each of the 323 questions, respondents were asked to check whether or not their agency presently asked the question or would ask it if the information were available. If a respondent checked either of the above, he/she was then asked to indicate (on a six-point scale ranging from "no importance" through "critical importance") how important the question was for each of six use categories: planning, operations, evaluation, finance and budgeting, reporting requirements and public information. The raters were further asked to indicate for each question checked, those information elements associated with that question that were needed to answer the question.

An ongoing effort was maintained during Phases I and II to produce a Lexicon of definitions of key terms used in describing the data questions and information elements. Draft copies of the revised Lexicon were available for use by the national data users at the Annapolis Conference as well as for subsequent conferences in Phase II. Production of the report of that conference marked the end of Phase II.

Phase III consisted of three similar conferences, one for state level user group representatives and two for local level users. As at the national level, state and local conferees were presented with the EDNEED Classification document in advance of the conference and asked to check those data questions needed and to rate each one checked according to its importance for each of the six use categories indicated previously. At each of the conferences, participants were asked to make suggestions and recommendations in three areas: (a) the adequacy of the Classification document; (b) the identification of problems and issues to be encountered in the development of a basic vocational education data system; and (c) the generation of solutions to the problems. Detailed reports of all four conferences are contained in Volume IV of the EDNEED Final Report.

Phase IV consisted of the completion of the conference reports, the design of a plan for the analysis of the data generated by the rating and checking process, the analysis of the data and the production of a five-volume final report. Entitled Data Needs in Vocational Education, each volume of the final report is subtitled as follows:

Volume I Summary of Procedures and Results

Volume II Project EDNEED Classification of Information

Volume III Project EDNEED Lexicon

Volume IV Issues and Recommendations
Reports of the EDUNFED Conferences

Volume V Data Analysis: Procedures and Results.

For more detailed information about any aspect of the study, the reader is referred to the appropriate volume.

Findings and Results

Although summarized in detail in Volume I, the results of the project are reported in Volumes IV and V. Only the highlights are presented here.

- A national system for vocational education data collection with emphasis on uniformity of data and format is critically needed.
- Standardized national definitions for data elements must be of the highest priority.
- A national data system will require federal funding and support.
- "Change" must be incorporated as a characteristic for any vocational education data system. Additions and deletions of data will be constant.
- The extent to which data will be used, by whom, and for what purpose must be established early, as well as the locus of control and physical location of the system.
- There appears to be little coordination among existing data systems, or among data producers and data users.
- Consideration must be given to the already heavy "data burden" on state and local education agencies. Statistically sound sampling is an alternative worth exploring in this regard.
- State vocational education agencies are both data producers and data users. The data burden problem falls most heavily on

their shoulders and they appear reluctant to become involved in activities which might increase the burden.

- A definitive study of data sources now in place is crucial. Any national data system should be designed to use every available data source. Only data which are highly needed but not currently available should be added.
- A national data system should provide a means for ensuring that data aggregated upward from local education agencies would be directed back to them in a timely and meaningful way. Local administrators indicated that this is often not the case at present, even with their own state MIS's.
- Vocational educators must learn to measure fitness for employment of graduates and early leavers in terms of their acquired and demonstrable competencies rather than in terms of courses taken and hours spent in classrooms, labs and shops. Such measurement data in a system could provide a basis for accurate studies of the costs of instruction vs. the benefits of placing people in employment.
- Local education agency data users have a greater need for curriculum information than either national or state users.
- State users have less need for data on student characteristics than either national or local users.
- Local data needs are more congruent with a national orientation than a state orientation.
- State data needs are more congruent with a national orientation than with a local orientation.
- National data needs are more congruent with a local orientation than a state orientation.

- Information on the characteristics of the curriculum and instructional processes was the most important category of information need across all levels and uses.
- Information concerning the characteristics of vocational program completers and early leavers was the most important category of informational need over all uses at the national level.
- Information on the characteristics of the curriculum and instructional processes was the most important category for both local and state users over all uses.
- There is a distinct demand at all levels for data descriptive of vocational education at the "grass roots." At all levels, users are most interested in knowing who is being served, what they are being served, and what happens as a result of their being served.
- National data needs for planning, evaluation, reporting requirements and public information are distinct from national needs for operations and finance/budgeting data.
- State data needs for planning, operations, finance/budgeting and reporting requirements differ from state data needs for evaluation and public information.
- Local needs for data appear to be relatively consistent across all uses.

TABLE OF CONTENTS


| | Page |
|---|---|
| THE NATIONAL CONFERENCE . . . . . | Divider 1 |
| THE STATE CONFERENCE . . . . . | Divider 2 |
| THE LOCAL CONFERENCES . . . . . | Divider 3 |

NATIONAL CONFERENCE

PROJECT EDNEED:

# Report of the Conference on the Determination of Nationally Essential Educational Data

Annapolis, Maryland
March 16-18, 1975

DASP Program Division
Center for Occupational Education
North Carolina State University
Raleigh, North Carolina

## PREFACE

The Annapolis Conference was carried on as one of a number of activities outlined in the scope of work of Project EDNEED (Empirical Determination of Nationally Essential Educational Data). Funded through U. S. Office of Education Grant #OEG-0-74-1654 to the DASP Program Division, Center for Occupational Education, North Carolina State University at Raleigh, EDNEED was designed as a preliminary step toward the future development of a basic vocational education data system. A brief summary of the larger project is included as Appendix A.

A presistent high point in the conference deliberations was the advice and wisdom provided by each of the many individuals who attended. The Center for Occupational Education was most fortunate in being able to assemble such an outstanding group of conferees associated with national organizations representing business, industry, the military, public and private schools, government agencies and the Congress. (See Appendix B.) The appreciation of the Center is expressed to each participant.

This report of the conference proceedings indicates the extent to which the refinement of the EDNEED Classification document was considered and includes recommendations for its further improvement. The report also reveals the concerns of the conferees with policy matters and issues deserving of continuing attention, as well as some of the proposed solutions to problems anticipated in the future establishment of a vocational education information system.

Finally, the report contains preliminary analyses of data on agency information needs and data uses provided by the conferees as they checked and rated the EDNEED Classification document prior to the conference.

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Conference Coordinator

Robert L. Morgan
G. William Porter
Co-Directors
Project EDNEED

GROUP I

GROUP II

GROUP III

GROUP IV

TABLE OF CONTENTS


| | Page |
|---|---|
| PREFACE | ii |
| FRONTISPIECE | iii |
| CONFERENCE PURPOSES AND PROCEDURES | 1 |
| FINDINGS AND RECOMMENDATIONS | 3 |
| Adequacy of the Classification | 3 |
| Policy Problems and Issues | 5 |
| Solutions to the Problems | 7 |
| PRELIMINARY ANALYSIS OF AGENCY INFORMATIONAL NEEDS | 12 |
| APPENDICES | 22 |
| Appendix A: Summary - Project EDNEED | A-1 |
| Appendix B: Conference Agenda and Listings of Participants, Guests and Staff | B-1 |
| Appendix C: Guide for Committee Work Sessions | C-1 |

## CONFERENCE PURPOSES AND PROCEDURES

Prior to the conference, an initial pool of frequently asked questions in vocational education was identified. Information elements potentially capable of providing answers to the questions were collected and organized along with the questions into an EDNEED Classification document consisting of 18 data files. This process is described in more detail in Appendix A. The EDNEED Classification document accompanied by a complete set of instructions for checking and rating the questions and information elements was mailed several days in advance of the conference to a wide spectrum of agency representatives, authorized to speak to the vocational information needs of their constituencies. Over 50 designated representatives of nearly 40 of these agencies sharing a common interest in vocational education were invited to participate in a working conference at Annapolis, Maryland, on March 16-18, 1975. See Appendix B for a listing of conference participants.

The purposes of the conference were threefold:

1. To review and critique the questions and information elements in the EDNEED Classification document.

2. To identify issues and problems associated with the design, inauguration and operation of a nationwide system of vocational education information.

3. To provide recommendations as to how the issues and problems identified could be resolved.

Discussion questions designed to assist in the fulfilling of these objectives were developed prior to the conference and appear in the Guide for Committee Work Sessions included as Appendix C. It was the expectation of the project staff that a directed discussion guide would concentrate attention on problems, issues, and policies vital to the success of the project, as well as provide alternatives for projected next steps.

Agency representatives were assigned to one of four discussion groups by the project staff in advance of the conference, on the basis of expected agency interests. Thus, the individuals in each discussion group reflected balance of agencies and interests on a wide spectrum. The discussion groups met for three highly productive periods, during which time discussion was confined to specific areas. The first discussion period concentrated on topics related to the "Adequacy of the EDNEED Classification document." The second discussion period concentrated on "Policy Problems and Issues Related to a National Information System," and the final session was concerned with "Suggested Solutions to Some of the Problems."

Project staff members served as resource personnel to the discussion groups, and provided such help in the matter of supporting documents as was needed, explanations as were desired by the conferees, and in recording notes from the discussions which would provide suggestions for the conduct of the project subsequent to the conference.

Following each discussion session, the elected leaders of the four discussion groups reported to the total group in general sessions, (a) the major agreements reached in the respective discussion groups, and (b) other information revealed by group members about problems, issues and constraints that might be anticipated. All general session reports were recorded. The tapescripts provided the substance for the following section of this report which discusses the process outcomes of the conference. Preliminary analyses of the data produced by the rating and checking of the EDWEED Classification is included in the final section.

In addition to the findings and recommendations reported in the next section, several other outcomes were apparent. The conference served as a national forum for the discussion of important issues relating to the production, storage, retrieval and use of vocational education data. Many organizations and agencies developed interfaces who previously had experienced little contact. Many of these agencies have already begun to extend and strengthen their linkages with other organizations through subsequent meetings.

## FINDINGS AND RECOMMENDATIONS

The output of the conference in terms of findings and suggestions made by the conferees is reported in this section. Reports of each of the work groups were given in three general sessions, each dealing with a different topic. As stated previously, the first general session was concerned with the adequacy of the EDNEED Classification document, the second with policy issues and problems associated with the development of a national data system and the third with possible solutions to the problems identified in the second. The findings are reported in that order.

### Adequacy of the Classification

#### Findings

The EDNEED Classification document was found to be more than adequate to serve as a basis for the discussion and subsequent development of a national vocational education data system. Its breadth and depth of coverage should, however, be increased to:

Additional Revenue Sources

a. Include more information elements (possibly a separate file) relating to amounts and sources of revenue. Information about tuition rates, local revenue structures including property taxes, income taxes, sales taxes, endowments, gifts, etc., is important to local institutions in making decisions about program continuation and support based on cost/benefit analysis.

Increased Supply/Demand Information and Labor/ Industry Linkages

b. Include more information, probably from sources outside the education system, on manpower supply and demand. More and stronger linkages among labor, industry and education would be desirable.

Additional Postsecondary and Proprietary School Data

c. Include more information about postsecondary education in general and about the proprietary sector in particular, in order that the delivery system of skilled personnel to the labor market will more accurately reflect all efforts

that are being made to provide a wide spectrum of training for all individuals. There is a need to be more concerned with the total universe of vocational education and training, while at the same time making extensive efforts to maintain the integrity of all public and private agencies that provide training. The current definition of vocational education in the EDNEED Classification should be broadened.

Additional Outcome Information

d. Include additional outcome information, particularly with regard to secondary education dropouts, completers and early leavers based on one and five year placement and follow-up studies.

Provisions for System Change

An efficient vocational education data system ought to incorporate "change" as a major characteristic, since employment and underemployment are phenomena of rapid change in the economy. A real danger in recording data concerning the economy is that the data are no longer current by the time they have been aggregated and made available for the purposes of decision-making. Further, arrangements must be made for periodically purging the system of data previously but not currently needed.

Identification of Data Users, Uses, and Producers

An important concern of the conference was the extent to which the data in the EDNEED Classification document would be used, by whom they would be used, and for what purposes they might be used. A corollary concern was expressed regarding data production. For example, the EDNEED Classification does not indicate which data are now being collected, nor by whom, nor at what level within organizations or across organizations (i.e., national, state, or local). In addition to a call for more information about present and future collection and storage mechanisms and locations, specific questions were raised concerning how often the data should be updated and whether or not a 100 percent sample is necessary each year.

More emphasis on Data Producers--Especially at State and Local Levels

Data users, particularly at the national level, were well represented at the conference. Data producers, particularly at state and local levels, were not. It is important to distinguish between users and producers at each level and more state and local participation is imperative.

Mail-out Survey Questioned

/ A number of conferees were vehement in their recommendation (also made earlier by the small group of selected users who carefully reviewed the EDNEED Classification document in advance of the conference) that the planned mail-out survey was not the way to secure such participation and could in fact be politically damaging to future project efforts. Mini-conferences or one or more Annapolis type conferences for state and local representatives were offered as alternatives to the survey.

More Articulation Between Producers and Users

Emphasize Crosswalks

/ There appears to be little coordination among existing data systems, or among data producers and data users. For example, annual data reports are not coordinated with state plans. The EDNEED Classification should reflect cognizance of "crosswalks" that are in place or would need to be put in place, such that data presently available in a variety of agencies could be interfaced with data scheduled for collection in the EDNEED Classification.

## Policy Problems and Issues

### Findings

Data Needs not Prioritized

/ Some method for delimiting the scope of a proposed national data system is mandatory. The prioritizing of files, subfiles and data elements is vital to that end and must be continued through state and local inputs.

Only Four Types of Data Necessary

/ Several of the conferees felt strongly that there are only four major kinds of data that need to be collected, and in the collection of these four types, there is a natural tendency to order the kinds of data that will be used. The four types include general purpose data, data concerning demonstration and research, evaluation data, and data concerning budgeting and expenditures.

Data Needs at Different Levels Vary in Specificity

/ The kind or kinds of data needed on a continuing basis by the committees of the Congress do not differ greatly from data needed by state and local authorities to evaluate local programs of vocational education. However, while a general but accurate description would suffice on the national level, such a description would have to be derived from data aggregated from the locals. Effective planning is based upon evaluation, and evaluation concerns the availability of data for comparative purposes.

**Data Produced Seldom Match Level and Purpose of Use**

Attention must be directed to those who will subsequently use the data, the extent to which the data will be used, and the relevance of the data to the needs of administrators, planners, evaluators and others. Directed attention and inquiry of this nature should disclose the level of sophistication actually required in the data, and the extent to which the sophistication has a bearing upon the uses of the data for decision-making. The depth of sophistication and detail needed in the data should be reflected in the subfiles within the PUNCED Classification.

**Confusion in Definitions**

One of the most significant problems facing any national data system concerns the matter of definitions. Although a national system constructed upon national definitions of such terms as vocational education, post-secondary vocational education, adult vocational education and others, is urgently needed now, many of these terms have various definitions in different states. Within the same state, the definitions of major terms in the vocational firmament are often understood to mean quite different things. The present confusion of definitive terms has produced, and will continue to produce, confusion in data acquisition, and in its usefulness in decision-making. Because of the lack of consistent definitions, it is virtually impossible to meaningfully aggregate data for use on the national level.

**National Needs For Data do not Match State Production Capability**

The activity now needed most is that of bridging the gap between national data needs and state data production capability. However, where local and state agencies receive and use federal vocational dollars, there is a requirement that data emanating from such agencies be supplied to federal education agencies. Most vocational educators urgently need accurate and current data for planning and organization, for evaluation, for budgeting and for expenditures, and most of these educators should willingly involve themselves in a system of data collection that would ultimately provide them with usable data available for local decision-making.

**Lack of Financial Incentives For States**

Financial incentives and support funding on a continuing basis should be considered by the federal government and federal educational agencies if they are urgently concerned with the establishment of an educational data system of the magnitude suggested by the present PUNCED Classification. The financial incentives and the supporting funds should accompany the request to the states for designing, installing, and operating permanent data systems on the local and/or state level. Further, personnel to operate such data systems would need to be trained and continually updated in their work.

Information About Existing State Data Systems Not Widely Disseminated

One of the major obstacles to the matter of installing a national data system for vocational education might be offset by the steps presently under way in the United States Office of Education to bring together individuals from the 10 or 12 states that now have educational data systems in operation. U. S. Office of Education officials, local educators, Bureau of Labor Statistics representatives and Manpower representatives drawn from the Department of Labor are being presently identified as those who will confer shortly on matters pertaining to policy and procedure in connection with data collection. Such interagency cooperation and the dissemination of information about present data systems is urgently needed.

Present FINCO Classification Not Cost Realistic

A major concern of the conference was the cost of operating a national data system on the order of that suggested by the FINCO Classification. Since it was not known how much of the information would be considered necessary, nor how much data was already being collected, estimates varied from $40 million to less than $1 million. Two steps are vital: (a) prioritize the data files and elements such that the needed data can be determined and (b) establish how much of the higher priority data is currently being collected by state and local agencies.

Data Burden on Producers

The problem of the burden on states and locals to produce data necessary for a national system was considered. The degree of additional burden on producers cannot be realistically assessed until the two steps recommended in the above paragraph have been taken.

Problems of Implementation Not Yet Solved

In addition to cost effectiveness and data burden a number of other questions were raised: Where will the data reside? Who will control its use? Could a CETA prime sponsor or other regional basis be used for its collection? Could the data be obtained through a sampling process? Is a national vocational education data system feasible apart from a general education data system? What will be the implications of the Buckley Amendment for such systems? Are special periodic studies of a CAI nature sufficient?

## Solutions to the Problems

### Findings

Reorganize File Structure

There is an apparent need to reorganize the files along different lines, or establish the reorganization around a different "theme". While it was understood that curriculum was the central theme in the 10 files

currently included in the EDNEED Classification, other organizational themes were considered. For example, both a classification which would at one extreme be all inclusive for all agencies; or at the other extreme would be only the collation of such data files as were common to all agencies, were mentioned. The latter was preferred.

**Determine to What Extent Data in EDNEED Classification Are Already Available**

✓ It was clear that much of the information needed by federal, state, and local vocational planners and evaluators is already being collected and used by a number of agencies at one level or another. Thus, the task of assembling all of the data shown in the EDNEED Classification may not be as difficult as it presently may appear. If an actual inventory of data available in the nation could be assembled first, the determination of the difference between that which is available and that which appears to be needed would be a task that would be both feasible and within federal budgetary possibility.

**Define Data Uses by Level And Purpose**

✓ Along with the prioritizing of data needs may also be the need to define the uses of the data in terms of the level of administrators who would use the data, and the purposes for which they would use the data. Some of these purposes might be planning and organization, evaluation, facility utilization, etc.

**Consider Sampling**

✓ A partial solution to the problem of securing data from many sources and levels may be in the design of the data collection procedures. Data collection procedures utilizing statistically sound sampling methodology may be worth considering.

**Define Employability Characteristics Through Interagency Linkages**

✓ The curriculum theme or core for the EDNEED Classification might be modified to emphasize the product of the vocational education process--the employability of the graduate or curriculum completer and his impact upon the economy. While employability characteristics might be difficult to develop, several agencies were identified as being of help. Among them were the U. S. Civil Service, various agencies in the Department of Labor, and a number of private agencies representing business and industrial groups.

**Develop Awareness of Data Limitations and Expertise in Data Use**

✓ Users of vocational education data ought to be made aware of the fact that all of the evaluation data that may be needed by local and state agencies are not necessarily shown in the data files of the EDNEED Classification. The current EDNEED Classification is an excellent indication of the needs of individuals and/or agencies for information. Beyond that, however, the needs of administrators and the training required by administrators on local, state,

and federal levels to become skillful in data use for decision-making is a most important matter for early action. Inservice education programs would be needed.

**Eliminate Duplication of Effort Through Inter-agency Cooperation**

/ There needs to be a definitive study of data sources now in place. When the data requirements in the EDNEED Classification have been prioritized, they can be checked against existing sources for the purpose of eliminating duplication of effort. Under no circumstances should vocational educators seek to collect information that other experts in other fields may already have available.

**Emphasize All Areas of Vocational Education**

/ Much vocational education data have been collected on the secondary level in the past. Future emphasis ought to be considered in the areas of postsecondary, adult, handicapped, and other categories that have not received concentrated attention.

**Use Classification to Foster Modification in Current Systems Toward Standardization**

/ Once the EDNEED Classification has been refined on the basis of the Annapolis conference, data producing agencies should be contacted with regard to each agency's willingness to modify its data collection procedures to include some of the additional needed data. In essence, this would further reduce the need to originate data collection by new or other agencies.

**Increase Dissemination About Current State of the Art**

/ There is a need to disseminate to the total professional field, information relating to data systems in the nation. The dissemination of advisories, publications, and detailed information about data sources should be on a continuing basis, in order that local, state, and national users of data be constantly aware of data availability for decision-making purposes. Thus, planning and organization, evaluation, utilization of training facilities, cost-benefit studies and other aspects of vocational education could be influenced to produce positive changes in the entire vocational delivery system.

**Establish State and Local Benefits**

/ Any national data system must depend upon individuals and agencies at state and local levels for its information. Therefore, it is imperative that there be state and local involvement in and input into the EDNEED Classification. States and locals must be shown how they will benefit from such a system. In order to ensure that the national system operate effectively, mandates in certain areas may have to be handed down from federal to state to locals.

**Consider Turning EDNEED Over to NCES**

✓ A strategy worth considering would be turning over to the National Center for Educational Statistics (NCES), the completed EDNEED Classification for incorporation in its total approach to the preparation of statistics for all education. Further, since data collection depends upon definitions and their ready acceptance by those who must ultimately provide the data, it would be advisable to have the identified data collection agency responsible for the production of the definitions.

**NCES and OMB Settle Definitional Variance**

✓ As a further solution to the problem of adopting national definitions within the vocational education enterprise, it was urged that where definitions are at variance because of different pieces of legislation, for example, two major governmental agencies should be responsible for adjudication. The National Center for Educational Statistics should work closely with the Office of Management and Budget (OMB) to develop definitions which would be consistent and which would reduce redundancies and errors in input data from the LEAs and the states.

**Establish Crosswalks After Clearly Identified Needs and Data Systems Emerge**

✓ The establishment of "crosswalks," or bridges between two discrete data files or systems should await general agreement on clearly identified data needs. Building or establishing the "crosswalks" should not be undertaken until such time as the systems to be "crossed" have been identified and a determination made as to which data are, in fact, needed.

✓ The following were recommendations for next steps toward the development of a national vocational education data system:

a. Stress state and local involvement in reacting to the EDNEED Classification and in establishing priorities of data needs, but not through a mail out survey. Alternatives suggested for securing such involvement were conferences and/or mini-conferences.

b. Strengthen the EDNEED Classification in the areas noted previously (impact data, post-secondary, etc.) through meetings with appropriate groups.

c. Conduct a definitive study of data sources and capabilities at state and local levels, disseminate the findings and determine which data in the EDNEED Classification are of high priority but not currently available.

Finally, any national data system should be designed to use every available data source. It should then promote the production only of such data which are both highly needed and not currently produced.

## PRELIMINARY ANALYSIS OF AGENCY INFORMATIONAL NEEDS

Forty-seven individuals representative of thirty-six national agencies rated the 18 files, 323 questions and the 2,340 information elements comprising the EDNEED Classification document. Each respondent first considered whether or not his agency presently asks or would ask the major question which served as the topical subject of each file. If he judged that his agency either does ask or would ask the topic question of a particular file, the respondent then separately considered each of the specific questions in the file in terms of its importance with respect to six specific use categories: planning, operations, evaluation, finance and budgeting, reporting requirements and public information. Importance of use for each use category was rated on a seven-point scale where a blank indicated the question was of no use and a six (6) indicated that the question was of critical importance.

A number of information elements were listed under each specific question. Respondents who rated a specific question as having importance for one or more uses checked those information elements needed to answer the question. An excerpt from a completed EDNEED Classification is presented in Figure 1.

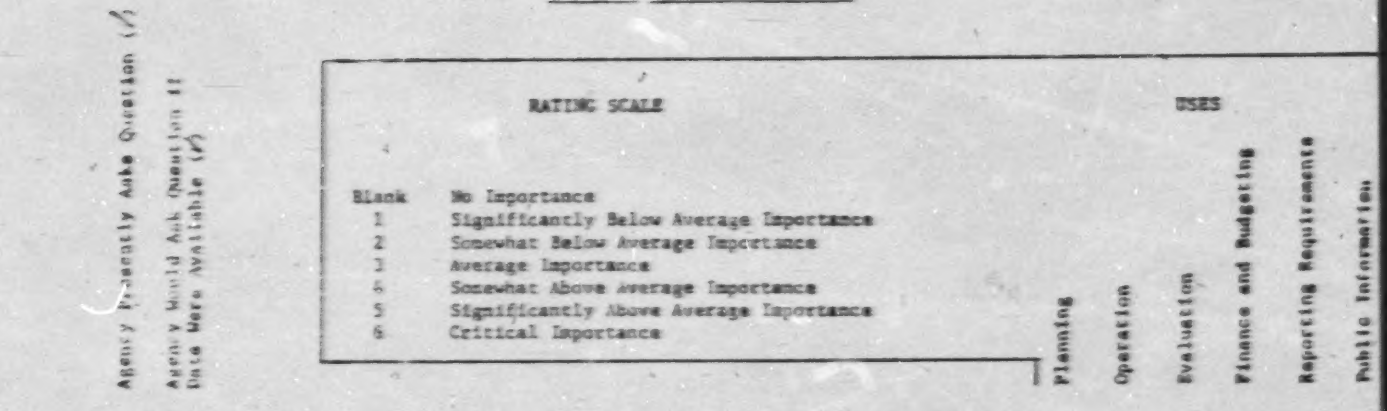
The responses given in Figure 1 indicate that the agency presently asks about vocational curriculum and instructional characteristics as a major topical area. More specifically, the agency also presently asks for curriculum identification information. This information is judged to be of critical importance to the agency for purposes of evaluation, finance and budgeting, and reporting requirements; of significantly above average importance for operations; of average importance for public information; and of somewhat below average importance for planning. Finally, in order to identify the curriculum within a school, five information elements are judged to be needed: curriculum title, curriculum and instructional code, program level, school code, and the academic year in which the curriculum was/is offered.

Thirty-three completed classification documents representative of twenty-three agencies were usable for data analysis. Of the eleven non-responding agencies, four did not rate and check the document because they felt it was inappropriate for their agency to do so and seven did not return the document for various other reasons. One document was returned unusable for analysis and another was lost in transit.

Completed classifications were analyzed in order to determine (1) the most frequently asked file topical questions, (2) the most frequently asked specific questions within files, (3) the specific questions of greatest importance for each use category, and (4) those agencies attributing the greatest importance to each use category. Each area will be discussed in turn in the subsequent pages.

Figure 1

Sample Page from Completed
FDNEED Classification



Agency Presently Asks Question (✓)
Agency Would Ask Question If Data Were Available (✓)

| RATING SCALE | | USES | | | | | |
|---|---|---|---|---|---|---|---|
| | | Planning | Operation | Evaluation | Finance and Budgeting | Reporting Requirements | Public Information |
| Blank | No Importance | | | | | | |
| 1 | Significantly Below Average Importance | | | | | | |
| 2 | Somewhat Below Average Importance | | | | | | |
| 3 | Average Importance | | | | | | |
| 4 | Somewhat Above Average Importance | | | | | | |
| 5 | Significantly Above Average Importance | | | | | | |
| 6 | Critical Importance | | | | | | |

FILE 1

(✓ ( ) WHAT ARE VOCATIONAL CURRICULUM AND INSTRUCTIONAL CHARACTERISTICS?

(✓ ( ) How Is the Curriculum Identified Within a School?

01 Identification ——— (2) (5) (6) (6) (6) (3)

Needed (✓)
(✓ Title
(✓ Curriculum and instructional code
(✓ Program level
( ) Program area
( ) Type of student work program (if applicable)
(✓ School code
( ) LEA code
(✓ Academic year

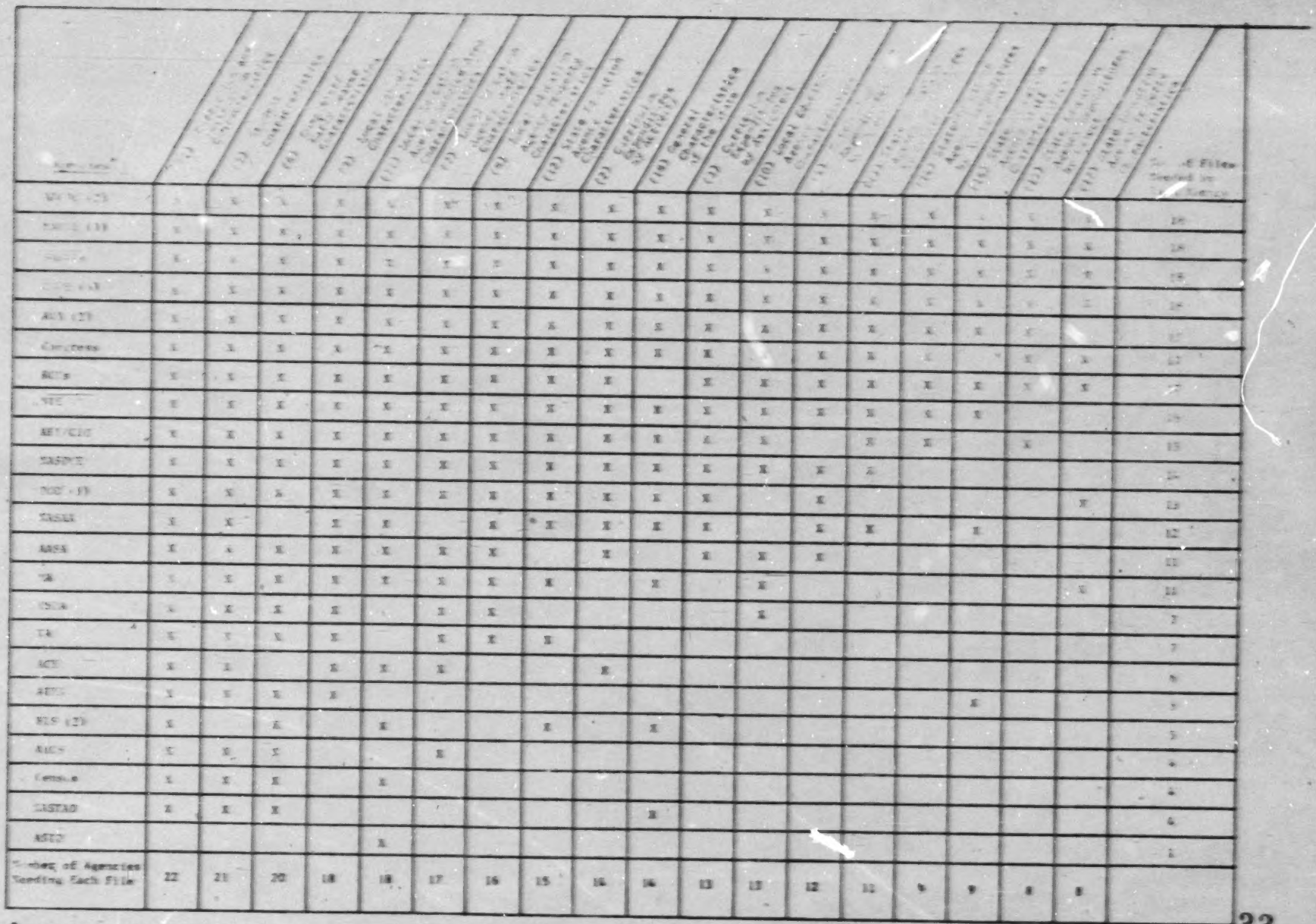
( ) What Is the Accreditation Status of the Curriculum?

02 Accreditation Status ——— ( ) ( ) ( ) ( ) ( ) ( )

Needed (✓)
( ) Accredited
( ) Not accredited
( ) Accreditation not available

Agency responses to each of the eighteen files are presented in Table 1. Agencies are ranked according to the number of files they checked as either being presently asked or would be asked if data were available. Files are ranked according to the number of agencies that checked the files. Files checked by an agency are indicated by an "X" and are assumed to represent agency need for that topical information. An agency is determined to have checked a file if at least one agency representative checked that file.

Table 1. Variable codes for International Files



*Agency acronyms are identified on the following page.

KEY TO ORGANIZATIONS AND AGENCIES

| | | |
|---|---|---|
| AACJC (2) | - | American Association of Community and Junior Colleges |
| AASA | - | American Association of School Administrators |
| ACE | - | American Council on Education |
| AFL-CIO | - | American Federation of Labor - Congress of Industrial Organizations |
| AICS | - | Association of Independent Colleges and Schools |
| ASTD | - | American Society for Training and Development |
| ATEA | - | American Technical Education Association |
| AVA (2) | - | American Vocational Association |
| BLS (2) | - | Bureau of Labor Statistics (U. S. Department of Labor) |
| DOD (3) | - | Department of Defense |
| MA | - | Manpower Administration (U. S. Department of Labor) |
| NACVE (3) | - | National Advisory Council on Vocational Education |
| NASAA | - | National Association of State Approving Agencies |
| NASDVE | - | National Association of State Directors of Vocational Education |
| NASTAD | - | National Association of State and Territorial Apprenticeship Directors |
| NIE | - | National Institute of Education |
| RCUs | - | Research Coordinating Units |
| SACVEs | - | State Advisory Councils on Vocational Education |
| USDA | - | U. S. Department of Agriculture |
| USOE (5) | - | U. S. Office of Education |
| VA | - | Veterans Administration |

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NOTE: Numbers in parentheses following certain acronyms indicate a number of respondents per agency. A blank indicates representation by a single respondent.

As can be seen from the row totals at the right in Table 1, four agencies checked all 18 files in the EDNEED Classification. AACJC, NACVE, SACVE, USOE, AVA, Congress, and the RCU's each checked at least 17 of the 18 files.* Fourteen of the 23 agencies checked nine or more of the 18 files.

The number of agencies that checked a particular file is shown in the row summaries at the bottom of the table. File 1, Curriculum and Instruction Characteristics was checked by 22 of the 23 agencies. File 5, Student Characteristics ranked second being checked by 21 agencies. File 6, Completer/Early Leaver Characteristics ranked third being checked by 20 of the 23 agencies. More than half of the agencies checked the following files: (1) Curriculum and Instruction Characteristics, (5) Student Characteristics, (6) Completer/Early Leaver Characteristics, (9) Local School Characteristics, (11) Local Education Agency Service Area Characteristics, (7) Local Education Agency Staff Characteristics, (8) Local Education Agency Property Characteristics, (12) State Education Agency Characteristics, (2) Curriculum Expenditures by Activity, (18) General Characteristics of the State, (3) Curriculum Expenditures by Assignment, (10) Local Education Agency Characteristics, and (4) Curriculum Expenditures by object.

The median number of files checked by an agency was 12. The median number of agencies needing a file was 14.

Each of the 323 specific questions included in the 18 files was asked or would be asked by at least one agency. Over half the agencies needed answers to sixty-four questions. The ten most important questions ranked by number of agencies needing answers were:

1. What are the related occupations for which training is provided in the curriculum?
2. What credentials are granted in recognition of completion of the curriculum?
3. What are the completion requirements for the curriculum?
4. Where is the location of the instruction? (e.g., school)
5. How is the curriculum identified within a school?
6. What persons or groups are involved in evaluation and/or curriculum improvement?
7. What is the approval agency for the curriculum?
8. What is the type of school organization by program offerings? (e.g., area vocational school)

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*A key to agency acronyms appears on page 15.

9. What is the type of school organization by grade level?

10. What is the time schedule for the curriculum?

Answers to all of the top ten questions were needed by 17 of the 23 responding agencies. Eight of the top ten questions came from File 1, Curriculum and Instruction Characteristics.

The questions receiving the highest importance rating for use in planning were:

1. What are the related occupations for which training is provided in the curriculum?

2. How is the curriculum identified within a school?

3. What is the curriculum enrollment?

4. What are the entrance requirements for the curriculum?

5. What is the location of the instruction?

6. What are the students' educational and career intentions?

7. What are the completion requirements for the curriculum?

8. What is the sex of the student?

9. What is the time schedule for the curriculum?

10. What is the student's day/evening status?

The top five questions in terms of use for planning came from File 1, Curriculum and Instruction Characteristics. All of the top 10 were to be found in either File 1 or File 5, Student Characteristics.

The ten questions receiving the highest importance ratings in the operations use category were:

1. How is the curriculum identified within a school?

2. What is the time schedule for the curriculum?

3. Where is the Location of the instruction?

4. How is the student identified?

5. What are the completion requirements for the curriculum?

6. What are the entrance requirements for the curriculum?

7. What is the student's day/evening status?

8. What tests and inventories have been administered (including job skill competency measures)?

9. What credentials are granted in recognition of completion of the curriculum?

10. What instructional methods and techniques are used?

As in planning, all of these questions were either in File 1 or File 5.

Those questions ranked in order of importance in the area of evaluation are:

1. How is the curriculum identified within a school?

2. What are the completion requirements of the curriculum?

3. How related is the current employment to the occupation trained for?

4. What persons or groups are involved in evaluation and/or curriculum improvement?

5. What are the postschool outcomes of curriculum completers/ early leavers? (i.e., all characteristics of vocational completer/early leavers by numbers in each category).

6. What are the related occupations for which training is provided in the curriculum?

7. What credentials are granted in recognition of completion of the curriculum?

8. What are the entrance requirements for the curriculum?

9. What are the school's vocational curricula offerings?

10. What credentials are held by the local vocational education staff members?

The ten most needed questions related to finance and budgeting were:

1. What is the source(s) of funding for the curriculum?

2. What are the curriculum expenditures?

3. What is the type of funding allocated to the curriculum from the Vocational Education Act?

4. How is the curriculum identified within the school?

5. What is the total state expenditure for vocational education?

6. What are the unobligated allotments carried forward?

7. What staff are assigned to the curriculum?

8. What is the curriculum enrollment?

9. What are the expenditures for equipment allocated to the curriculum?

10. What are the expenditures for instructional activities allocated to the curriculum?

The top ten questions indicated as being most needed for <u>reporting requirements</u> were:

1. What is the time schedule for the curriculum?

2. What is the approval agency for the curriculum?

3. In what curriculum is the student currently enrolled?

4. What are the completion requirements for the curriculum?

5. How is the student identified?

6. What is the sex of the student?

7. What is the approval status of the curriculum?

8. What is the curriculum enrollment?

9. What is the total vocational education revenue?

10. How is the curriculum identified within a school?

The top ten items rated as being most important for the area of <u>public information</u> were:

1. How related is the current employment to the occupation trained for?

2. How is the curriculum identified within a school?

3. What are the completion requirements for the curriculum?

4. What credentials are granted in recognition of completion of the curriculum?

5. What are the entrance requirements for the curriculum?

6. What is the accreditation status of the curriculum?

7. What were the characteristics of the first job obtained after completion/leaving?

8. What is the curriculum enrollment?

9. Where is the location of the instruction?

10. What is the sex of the student?

When use categories were compared, the most important use of information was for evaluation as determined by the higher mean importance ratings for that category. Next in importance was planning, followed by public information, operation, finance and budgeting, and finally, information necessary to comply with reporting requirements.

The five agencies placing the greatest importance on planning information ranked in order were: (1) USOE, (2) AACJC, (3) SACVE, (4) AICS, and (5) AVA. The five agencies placing the greatest importance on operations information were: (1) USOE, (2) SACVE, (3) AFL/CIO, (4) AASA, and (5) SACVE. The top five ranking agencies requiring data for finance and budgeting were (1) AACJC, (2) USOE, (3) AFL/CIO, (4) AASA, and (5) AVA. The top five agencies using data for reporting requirements were: (1) NACVE, (2) AACJC, (3) AVA, (4) AASA, and (5) USOE. The top five agencies utilizing data for public information were in rank order: (1) AACJC, (2) AVA, (3) NACVE, (4) AFL/CIO, and (5) USOE.

Eight different agencies accounted for the top five rankings in each of the six use categories. USOE was the only agency to appear in the top five users in every use category. AACJC, appeared on five of the six use category rankings, followed by AVA, AFL/CIO, and AASA each of whom appeared on four of the six rankings. Of the eight different agencies represented among the top five on each of the six use category rankings, AACJC, NACVE, SACVE, USOE, and AVA were also the top agencies in terms of number of files needed (See Table 1). The fact that AICS, for example, was one of the top five agencies with respect to planning, yet only indicated a need for four out of 18 files indicates a need for in-depth planning information spread across a small number of files. This contrasts sharply with Congress which did not appear among the top five on any of the use category lists, but was near the top on the number of files (17 of 18) checked. USOE, at the top in both use category lists and in number of files checked apparently has extensive and intensive need for a wide variety of information for multiple uses.

In summary, the results of the analyses show more than half of the agencies expressed a need for data contained in 12 or more of the 18 files. Seven of the agencies needed information contained in at least 17 of the 18 files. USOE, National and State Advisory Councils, AVA, Congress, AACJC, and SDE's were among the organizations having the most extensive need for vocational education information.

Agency need for vocational education information generally followed the hierarchical education organization structure. Greatest need was expressed for curriculum related information with progressively less need being expressed for student, school, local education agency and state educational agency information.

The most frequently asked specific questions regarding vocational education dealt with curriculum and student characteristics. Of the top ten most frequently asked questions, eight dealt with curriculum and/or student considerations.

With regard to uses of information, evaluation was most important followed by planning, public information, operations, finance and budgeting, and reporting requirements. NACVE and SACVE ranked highest in the importance placed on evaluation; USOE and AACJC ranked highest in importance placed on planning; AACJC and USOE ranked highest in importance placed on use of data in finance and budgeting and NACVE and AACJC ranked highest in use of data for reporting purposes. Eight of the 23 agencies were consistently in the top five uses for each of the use classifications.

Analysis of the information elements needed to answer the questions discussed in this report is not included because more state and local input needs to be sought before the final data analysis can take place. Information element analysis as well as a more comprehensive treatment of the highlights presented here will appear in the Project EDNEED Final Report.

APPENDICES

# APPENDIX A

## SUMMARY - PROJECT EDNEED

## BRIEF SUMMARY - PROJECT EDNEED

As stated previously, the Annapolis conference was one of a number of activities associated with Project EDNEED. So that the conferees can be viewed within the total context of the project, a very brief summary is included here.

The project was designed as an important first step toward the future development of a Basic Vocational Education Information System. Its purposes are (1) to determine, through empirical investigation, information elements which satisfy the shared vocational education informational needs of national, state and local user groups; (2) to prioritize the information elements so derived according to the degree of shared importance across user groups; and (3) to determine similarities in information needs across user groups.

The rationale for the project is based upon clearly documented problems associated with data needs, data collection, data aggregation and data utilization at national, state and local levels. Many of these issues received attention at the conference and are, therefore, included elsewhere in the report.

The central premise of the project is that from the total universe of data that could be made available, some basic core of information elements can be empirically derived which will meet the shared needs of data users across the various sectors and levels of vocational education. More specifically, the emphasis throughout the project has been to ensure that the information elements selected to make up the eventual core be empirically determined through ratings by individuals representative of

users of information about public and private vocational education in elementary/secondary and postsecondary schools, as well as adult education, business and industry and the military.

Operationally, Project EDNEED has been divided into four phases: (1) the identification of frequently asked data questions and those information elements deemed necessary to provide answers to those questions; (2) the refinement of the data questions and information elements by national, state and local user groups; (3) the rating of the questions and information elements by representative data users and producers at all three levels; and (4) the analysis of the rating to determine priority data needs across groups and levels and the production and dissemination of a final report.

In the first phase, an initial item pool of frequently asked questions in vocational education was identified. Information elements potentially capable of providing answers to the questions were gathered and organized into a preliminary document consisting of twenty data files. Information supplied by user groups was the key resource for the identification of these questions and information elements. Other major sources included congressional legislation and testimony, professional literature, state data systems, professional organizations and other federal, state and local agencies involved in using or producing vocational education data.

In Phase II the preliminary document was reviewed by representatives of six organizations at the national level directly concerned with vocational education. As a result of the recommendations from this review, the preliminary taxonomy was revised into the EDNEED Classification document consisting of 323 questions and more than 5,000 information

elements organized into 18 data files. The document was mailed to the conferees prior to the Annapolis conference. Also in Phase II; a lexicon of definitions of terms used in vocational education was developed. The lexicon was available at the conference in the event that any of the conferees were unfamiliar with any of the terms employed in the Classification. The final activity in the second phase of the project was the conference involving an expanded group of national users in Annapolis, Maryland. Prior to the conference, the individuals involved responded to the Classification document by rating and checking the questions, the files and information elements included. At Annapolis the conferees considered the adequacy of the Classification in terms of scope and depth of coverage, as well as problems and recommended solutions to the problems associated with the possible implementation of a national vocational education data systems.

The third phase of Project EDNEED, originally envisioned as a mail-out survey to secure priority ratings of selected files and information elements in the Classification from individuals representative of state and local jurisdiction is currently under review by the project staff. As a result of input from the Annapolis conference, alternative mechanisms for securing state and local reactions to the Classification are being considered.

Phase IV, the final operational step, will center on the analysis of data gathered in the second and third phases and its incorporation into a final report. Analysis of checked and ranked Classification documents will focus on the rank ordering of the information elements according to their shared importance at each of the national, state, and

local levels. It is expected that data files and information elements which are seen as commonly needed by all three levels will thus be identified. Also, it will be possible to distinguish data files and elements which are shared by two levels (e.g., state and local, but not national) and to assess their varying degrees of importance. Finally it will be possible to identify those data files and information elements unique to one level and scaled to their particular importance at that level.

The benefits of Project EDNEED to the field are expected to be many. Since the project consists of efforts to determine empirically the demand for various kinds of data in order to define the kind of supply which best meets that demand, EDNEED is expected to result in the specification of the minimum number of common data files and information elements reflecting of the needs of the greatest number of user groups. The resultant core will consist of essential items grouped according to constituency demands and organized to indicate the data files and information elements that have the most importance to identifiable user groups. Data file specification and subsequent data element definition have important implications for research, planning and evaluation. Further, through the employment of cost/effectiveness techniques, it is possible that a maximum-benefit/least-cost information system can be developed, which will place heavy reliance on increased coordination among data systems already in place.

# APPENDIX B

## CONFERENCE AGENDA AND LISTINGS OF PARTICIPANTS, GUESTS AND STAFF

PROJECT EDNEED

Conference on the Determination of Nationally Essential Educational Data

Annapolis, Maryland
March 16-18, 1975

AGENDA

Sunday - March 16

Arrival at Annapolis - Hilton Hotel

| | |
|---|---|
| 6:30 P.M. - 7:30 P.M. | Social Hour |
| 7:30 P.M. | Dinner and Greetings |

Monday - March 17

| | |
|---|---|
| 9:00 A.M. - 9:30 A.M. | Opening Remarks |
| 9:30 A.M. - 10:00 A.M. | Instructions, Procedures and Committee Assignments |
| 10:00 A.M. - 11:00 A.M. | Committee Work Sessions |
| 11:00 A.M. - 11:15 A.M. | Coffee Break |
| 11:15 A.M. - 12:15 P.M. | Committee Work Sessions |
| 12:30 P.M. - 1:30 P.M. | Lunch |
| 1:30 P.M. - 2:15 P.M. | General Assembly |
| 2:15 P.M. - 4:30 P.M. | Committee Work Sessions |
| 5:30 P.M. - 7:00 P.M. | Social Hour |

Tuesday - March 18

| | |
|---|---|
| 9:00 A.M. - 9:30 A.M. | General Assembly |
| 9:30 A.M. - 11:00 A.M. | Committee Work Sessions |
| 11:00 A.M. - 11:15 A.M. | Coffee Break |
| 11:15 A.M. - 12:15 P.M. | General Assembly |
| 12:30 P.M. - 1:30 P.M. | Lunch |
| 1:30 P.M. - 3:15 P.M. | Final Committee Work Sessions |
| 3:15 P.M. - 4:00 P.M. | Final General Assembly |
| 4:00 P.M. | Adjournment |

## INVITED PARTICIPANTS

| Agency | Representative(s) |
|---|---|
| AACJC | Dr. Edward Gleazer, Jr., Executive Director<br>American Association of Community and Junior Colleges<br>Suite 410<br>One Dupont Circle, N.W.<br>Washington, D. C. 20036 |
| | Dr. John Grede, President<br>Council for Occupational Education, AACJC, and<br>Vice-Chancellor, Career and Manpower Programs<br>City Colleges of Chicago<br>180 N. Michigan Avenue<br>Chicago, Illinois 60601 |
| | *Mr. Andrew S. Korim<br>Specialist in Occupational Education<br>American Association of Community and Junior Colleges<br>Suite 410<br>One Dupont Circle, N.W.<br>Washington, D. C. 20036 |
| | *Mr. Carl Powell, Assistant to Director, and<br>Head of District Informational Systems<br>Milwaukee Area Technical College<br>1015 North Sixth Street<br>Milwaukee, Wisconsin 53203 |
| AASA | Dr. Paul Salmon, Executive Director<br>American Association of School Administrators<br>1801 N. Moore Street<br>Arlington, Virginia 22209 |
| | *Dr. Edward J. Anderson, Superintendent<br>Anne Arundel County Schools<br>2644 Riva Road<br>Annapolis, Maryland 21401 |
| ACE | *Dr. Jerry Miller, Director<br>Office on Educational Credit<br>American Council on Education<br>One Dupont Circle, N.W.<br>Washington, D. C. 20036 |

*Indicates those who attended.

## INVITED PARTICIPANTS

| Agency | Representative(s) |
|---|---|
| AFL-CIO | *Mr. Kenneth R. Edwards, Chairman<br>Labor Division, National Transportation Apprenticeship and Training Conference AFL-CIO, and<br>Director, Skill Improvement Training Department<br>International Brotherhood of Electrical Workers<br>1125 15th Street, N.W.<br>Washington, D. C. 20036 |
| AICS | Mr. Richard A. Fulton, Executive Director<br>Association of Independent Colleges and Schools<br>1730 "M" Street, N. W.<br>Washington, D. C. 20036 |
| | *Ms. Mary B. Wine<br>Association of Independent Colleges and Schools<br>1730 "M" Street, N.W.<br>Washington, D. C. 20036 |
| ASTD | Mr. Kevin O'Sullivan, Executive Vice President<br>American Society for Training and Development<br>Post Office Box 5307<br>Madison, Wisconsin 53705 |
| | *Mr. Robert Craig<br>Director of Communications<br>American Society for Training and Development<br>Post Office Box 5307<br>Madison, Wisconsin 53705 |
| ATEA | *Dr. Angelo Gilli, Immediate Past President<br>American Technical Education Association, and Professor and Chairman, Graduate Studies and Research<br>College of Education, Division of Vocational Education<br>Pennsylvania State University<br>247 Chambers Building<br>University Park, Pennsylvania 16802 |
| AVA | Mr. Lowell Burkett, Executive Director<br>American Vocational Association, Inc.<br>1510 "H" Street<br>Washington, D. C. 20005 |

INVITED PARTICIPANTS

| Agency | Representative(s) |
|---|---|
| AVA | Dr. C. M. Lawrence, Immediate Past President<br>American Vocational Association and<br>Chief, Bureau of Vocational Technical and<br>Adult Division<br>State Department of Education<br>217 Knott Building<br>Tallahassee, Florida 32304 |
| | *Mr. Dean Griffin<br>Associate Executive Director<br>American Vocational Association<br>1510 "H" Street<br>Washington, D. C. 20005 |
| BAT | Mr. Paul Van Diver, Director<br>Office of National Industrial Production<br>Bureau of Apprenticeship and Training<br>U. S. Department of Labor<br>Patrick Henry Building<br>601 "D" Street, N.W.<br>Washington, D. C. 20213 |
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# APPENDIX C

## GUIDE FOR COMMITTEE WORK SESSIONS

# DISCUSSION AND REVIEW OF CLASSIFICATION OF INFORMATION

## Guide for Committee Work Sessions

PROJECT ENHERE
DASP Program Division
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## Introduction

The Classification of Information is an aggregation of data files and items designed to serve as a base for a Vocational Education Information System. It has been organized into data files and items, in order to facilitate the process of data collection and the task of assembling information relating to the quantity and quality of programs and curriculums that prepare individuals for work, that enable them to update and/or upgrade themselves in occupations, and/or to prepare themselves for new and emerging occupations.

In its present form, the Classification represents the collective efforts of national advisers, the staff of the Center for Occupational Education, and that of many other individuals in agencies concerned with vocational information.

The task to be completed at this two-day meeting in Annapolis consists of refining the Classification, and in obtaining advice and guidance from the conferees on major matters of policy and procedures relating to the establishment and operation of a National Vocational Education Information System. Directly following the meeting, the final draft of the Classification will be prepared and made ready for nationwide field tests.

Individuals assembled here in Annapolis represent agencies of education, government, the military, business, industry, and other segments of the economy; all have in common vital interests in training, its description, quality, quantity and measurement. It is

essential to the success of our two days together on this project that each participant of a committee consider such questions as the following concerning the Classification, and then make such suggestions as will improve and help make the present document ready for its intended national field-testing, and followed by the steps required to "set in place" a national system of vocational education information.

Work Session 1

Topics for Discussion

1. Do the data files in the Classification adequately reflect the need for information concerning vocational education, as expressed by education, government, business and industry spokesmen?* Are there other data files that should be included in the Classification? Are there data files that should be deleted? What modifications in the structure of the Classification do you recommend?

2. Do the items in each file adequately reflect the information that is needed about vocational education by education, government, business and industry? Is each subfile and item clear and understandable? Are there data subfiles and items that should be added? Are there data subfiles and items that should be deleted? Are there data subfiles and items that should be recorded or modified?

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*To facilitate the work of reviewing the Classification, the Center staff has prepared a "Lexicon of Definitions." Only those definitions have been included in the document that refer to phraseology used in the Classification. Copies of the "Lexicon of Definitions" are available for use through your Center staff resource person.

## Work Session 2

Topics for Discussion

1. What are the issues and problems that are associated with the design, inauguration and operation of a nationwide system of vocational education information?

2. Are there other agencies in the same field? How should the several systems interface? What are the problems of organizing to effect interfacing?

3. Are there legal and/or governmental problems, restrictions, regulations or other impediments that must be considered?

4. What are some of the options open with regard to the nationwide financing of such a system?

5. What are some of the problems of system management that must be anticipated?

6. Other?

## Work Session 3

Topics for Discussion

1. What recommendations can the committee make as to how the identified issues and problems may be resolved? (See results of Work Session 2.)

2. What steps are needed, and which agencies should take the steps, in order to insure that a National Vocational Education Information System will be responsive to the special needs of constituency groups?

3. What methods should be used to interface the proposed national system of vocational education information with the already existing data systems, in order to maintain the integrity of the information with a minimum of restructuring existing systems? What "crosswalks" would need to be established?

Final Work Session 3 (continued)

Topics for Discussion

1. Are there currently existing sources of information not previously identified that could be utilized? What and where are they?

2. What suggestions can be provided by the committee concerning the uses of a vocational education information system for purposes of decision-making in:

a. planning and organization of vocational education;

b. evaluation of outcomes;

c. financing vocational education programs on local, state and/or federal levels;

d. utilization of facilities; and

e. other?

STATE CONFERENCE

# SUMMARY REPORT OF CONFERENCE WITH STATE DIRECTORS OF VOCATIONAL EDUCATION

GOVERNOR'S INN

Research Triangle Park, North Carolina
August 28, 1975

PROJECT EDNEED

Center for Occupational Education
North Carolina State University at Raleigh
Raleigh, North Carolina

CONFERENCE OF STATE DIRECTORS OF
VOCATIONAL EDUCATION

SUBJECT: The EDNEED Study, with particular emphasis upon the Classification of data items, its adequacy and such problems as may be anticipated in installing a national data system for vocational education.

The conference of six state directors of vocational education for the purpose of considering the EDNEED Study was held at the Governor's Inn on August 28, 1975. In advance of the meeting, each of the state directors had been supplied with the most recent copy of the Classification of Vocational Education Information. This was the central theme for the discussion. During the time the group considered the Classification and the potential for a national data system for vocational education, the conference focused upon three basic sets of discussion questions. The questions are shown in the report which follows. In order to facilitate the reading of the summary, all reactions, suggestions, recognition of problems and the recommended solutions have been grouped directly following the pertinent discussion questions.

A. Discussion Questions Relating to the Adequacy of the Classification of Vocational Education Information

- Do the data files in the Classification adequately reflect state needs for information concerning vocational education, as expressed by education, government, business and industry spokesmen? Are there data files that should be deleted? What modifications in the structure of the Classification would you recommend?

- Do the items in each file adequately reflect the information that is needed about vocational education by state-level education, government, business and industry? Is each subfile and item clear and understandable? Are there data subfiles and items that should be added? Are there data subfiles and items that should be deleted? Are there data subfiles and items that should be reworded or modified?

1. State vocational education divisions are currently being requested to supply more and more information to legislators and to legislatures. The urgent need for data is illustrated by the frequent telephone calls from legislators for information to be provided them in their task of considering vocational legislation for a state. To the extent that information <u>can</u> be supplied, there is evidence that vocational education will benefit. It would appear very wise to keep members of State Legislative Committees on Education fully advised as to progress being made in the adequacy and uses of a national information system for vocational education.

Involve State Legislature Committees on Education

2. Many more data elements are now being collected about vocational education than are needed by the states. Some states have already indicated their unwillingness to collect additional data, unless it is clearly established that the data have a utilization of a practical nature, rather than data that

Ties and Importance of Data Must Be Demonstrated

are "nice to know." State directors of vocational education are not unwilling to collect needed data, but the constant pressure to collect data which have no apparent use in the organization and administration of a state vocational education program is extremely annoying, and will be resisted.

3. Some expression of opinion in connection with a national information system for vocational education of the magnitude of EDNEED revealed that there was a high level of doubt concerning its need and utilization. It was pointed out by several of the state directors that they are extremely "leery" about recommending a system of information collection that would assure the passing on up to national data users a lot of information that has no apparent value on the state or local levels. If such a procedure of recommending a study such as EDNEED is given widespread appropriate consideration, the statement was made that many state directors would not approve the system since it would induce national data users to insist that states then provide the data they had earlier approved.

Should States Collect Data Which Are Useful Only at the National Level?

4. It was pointed out that in one state, the governor had already taken the initiative by ordering 148 different information forms to be discontinued. As a measure of increased efficiency and savings in operation, the governor had directed that these forms

Current Trend Is Toward Collecting Fewer Data

be eliminated from state government, since the information was not apparently vital in the operation of the state. With such kind of state action, some doubt was expressed concerning a vocational education data information system of the EDNEED magnitude ever receiving state-by-state approval.

5. One of the state directors pointed out that we are at this very moment trying to collect too much data on a continuous basis, and if the data that are indicated in the Classification are to be seriously considered, it should be from the standpoint of who is planning to use the data and for what purposes. If legislators ask for large amounts of data for the purposes of legislation, they ought to be prevailed upon to provide the necessary funds to employ the personnel and to take care of costs in providing the data. As an example of this, one state director observed that one-year studies and five-year follow-up studies for use by state legislatures will result in considerable cost to a state division of vocational education and that those state agencies requesting special information ought to be aware of the fact that their requests should be accompanied by the necessary appropriations to conduct the studies.

If Legislators Want More Data, They Should Be Prepared to Make Appropriations to Pay for Its Production

6. In many states, the State Superintendents of Public Instruction (or the Commissioners of Education) in consultation with their respective state boards of education will make the decisions concerning data and its collection. The prediction was made that ultimately each state will have one system of data collection, and that the vocational education data items will have to be included in the overall collection of statewide data. Such a comprehensive system of data collection will certainly come about, since far too many separate agencies are collecting data at the present time. Further, it was pointed out that if a state system of education can get all of the data that it needs to effect efficient operation in the state, that that is the point where the state will draw the line and will stop the collection of other data which is of the "nice to know" variety, but not critically needed.

Decisions Regarding State Level Data Collection Are Made at the State Level

7. In general, the Classification was viewed by the state directors as a document which is extremely detailed, and undoubtedly has information categories and items which could be of value in the respective states. However, the Classification was commented upon as a listing of information items that would have far greater appeal to national data users than to state, regional and local data users. It was expressed that the local users of data would

Classification More Nearly Meets Data Requirements of National Level Users than State Level Users

undoubtedly see in the Classification far more data items that would be used in state and national situations than they (the local users) would ever have any reason to utilize in local planning or evaluation of vocational education.

NOTE: To facilitate the work of reviewing the Classification, the Center staff prepared a "Lexicon of Definitions." Only those definitions are included in the document that refer to phraseology used in the Classification.

3. Discussion Questions Relating to Problems in Setting up a National Information System for Vocational Education

- What are the issues and problems within your state that you believe are associated with the design, inauguration and operation of a national system of vocational education information?
- Are there other agencies in the same field of data collection, aggregation and analysis? How should the several systems interface? What are the problems of organizing to effect interfacing, as you see them in your state?
- Are there state, legal and/or governmental problems, restrictions, regulations or other impediments that must be considered?
- What are some of the options open with regard to nation-wide financing of such a system of vocational education information?
- What are some of the problems of system management that must be anticipated in your state?

1. In answer to the above questions relating to problems that are foreseen in connection with setting up a national data system, a number of the directors pointed out that the very obvious problem which was at the heart of such an operating system would be that of persuading regional and local vocational people to collect data. It was pointed out that without common definitions, the data coming in would not be usable, since many of the services included in vocational education are understood and operated under different understandings. Further, it was suggested that there isn't enough money from national, state or local sources for vocational education to collect all the data that is needed. Every effort will have to be made to be realistic, to identify clearly the uses that will be made of the data that is being collected or that which is being recommended for collection, and to stay within the very limited budgets on whatever level of data collection the operation takes place.

Motivation Problems

Definition Problems

Funding Problems

2. Problems are already developing in data collection on many fronts. These problems have little to do with the willingness of individuals to collect the data, but rather because the data collection activity is in immediate conflict with national legislation recently enacted which provides that the confidentiality of data shall not be violated. Wherever

Confidentiality Problem

data is being collected at the present time, it was observed that questions will be raised about the nature of the data, and in the future all information suggested for collection will be carefully examined in the light of the legislation.

3. There will be great problems in convincing local people that the state vocational data system is usable, viable, valuable. Local administrators of vocational education and all others who will have the task of assembling data at the local level for transmission to the state authorities will question the data items and the utilization of the data items, since the collection process is an expensive and time-consuming function. It was strongly recommended that wherever possible data collection requests be kept to a minimum in number and magnitude, since serious problems have already been generated by far fewer requests for information. The requests for anything resembling what is in the EDUNEED Classification would cause consternation at the local vocational education level.

Documentation of Need and Uses Is a Problem

4. Many states are now looking at comprehensive state educational data systems, in the hope that such systems will reduce some of the costs, and will provide the basis for the inclusion of vocational education data in the overall state system. However, the

Status Already Have Problems With Their Own Data Systems

comprehensive education data systems where started have already generated some significant problems, and will take much "working out" over the next few years. It was pointed out that in six years of developing a comprehensive system for one state, the problems had only been slightly ameliorated. It was observed that the addition of anything of the magnitude of the EDNEED Classification would further exacerbate the problem and cause much confusion.

5. One of the problems that will be clearly evident when matters of data collection are carefully considered by the several states is that all too frequently data that are supplied by the states to national users are subsequently used against the states. This practice will continue to generate a reluctance on the part of state directors in supplying information which when compared with information supplied by other states, and treated statistically, will become a matter that is detrimental to the respective states. State directors of vocational education don't like this procedure and will take steps to prevent it wherever possible.

Problems With Data Being Used Against Producers by the Users

C. Discussion Questions Relating to the Solution of the Identified Problems

- What recommendations can be made as to how the identified issues and problems may be resolved?

- What steps are needed, and which agencies should take the steps, in order to ensure that a National Vocational Education Information System will be responsive to the special needs for constituency groups?
- What methods should be used to interface the proposed national system of vocational education information with any existing data systems, in order to maintain the integrity of the information with a minimum of restructuring existing systems? What "crosswalks" would need to be established?
- Are there currently existing state sources of information not previously identified that could be utilized? What and where are they?
- What suggestions can be provided concerning the uses of a Vocational Education Information System for purposes of decision-making in:
  - --planning and organization of vocational education, evaluation of outcomes;
  - --financing vocational education programs on local and state levels;
  - --utilization of facilities; and
  - --determination of socioeconomic impacts of vocational education.

1. It was suggested that before the study proceeds much further the Western Interstate Commission on Higher Education (WICHE) should be involved in discussions

Involve WICHE/WCHE

concerning the classification of vocational education information. WICHE has in the past addressed itself to higher education primarily, but is now moving into the two-year postsecondary vocational and technical education programs. At the same time there is a need to involve the National Center for Higher Education Management Systems (NCHEMS) which is getting increasingly involved in vocational education. Both WICHE and NCHEMS have valuable inputs to a national data system for vocational education, and certainly from the standpoint of compatibility of data systems, the matter is deserving of immediate investigation.

2. One of the groups that needs to be critically involved in data system considerations would be the education committee members of the 50 state legislatures. Each of these committees in the several states is a frequent user of data and continues to make more and more extensive requests for data from state vocational education departments. The urgency in meeting with a representative group of education committee legislators is clearly evident, and steps should be taken early in the EDNEED Project to secure advice from this source. In one state, efforts are already underway to work with five legislators, members of the education committee of the state legislature, in an effort to determine exactly which

Involve State Legislature Committees on Education

kinds of data and in which form the data would be of most value to the education committee.

3. Several of the state directors pointed out that the obvious differences in data utilization on the national, state and local levels would appear to indicate that steps will have to be taken shortly to bring representatives of all three levels into a common meeting for the purpose of identifying the minimum data needs that would satisfy all education administrators at the three discrete levels.

4. Every effort should be made early in this age of data collection technology to effect a jointure of data collecting "empires" and agencies. The multitude of data collecting agencies and the multitude of data files make the foregoing suggestion one of great importance and one not to be ignored in connection with the EDNEED Project. One of the considerations that should be given intensive discussion concerns the procedure under which EDNEED data would be collected. It was strongly urged that there ought not to be another complete new system of data collection established for vocational education. Rather, vocational education information should be collected as part of a comprehensive national system. Further, it was urged that all be cognizant that such data as are collected on the national level will be far

Bring Existing Data Systems Together; Do Not Create Another One

greater in number of items than will conceivably be needed on either the state or local levels.

5. Great interest was shown in connection with the Lexicon that is presently under preparation by the ERNEED staff. The recommendation was made that the Lexicon would make a great contribution to the field of vocational education, certainly as a starting document, and possibly as part of the continuing effort to make available to all directors of vocational education common definitions for reporting data. Speed in the perfection of the Lexicon was recommended, with copies to be provided to all who collect vocational education information. It was recognized that data without common definitions of terms can only result in the perpetuation of the procedures which currently results in national data which is available to the states and is often meaningless.

Emphasize Lexicon; Work Toward Common Definitions

6. Following the discussion of the recent Center publication entitled, "Questions in Vocational Education: What Everyone Wants to Know and is Not Afraid to Ask," the state directors felt strongly that the document should be used to follow-up with representatives of the Congress and with the respective state legislators to determine the actual data that is needed on the national and state levels. It was urged that

Determine Data Needed by Congress

steps be taken immediately, particularly at the national level, to follow on the suggestion and to determine exactly the kinds of questions that need answers for the purposes of the Congress, and to then correlate the questions with the EDNEED Classification.

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LOCAL CONFERENCES

PROJECT EDNEED:

# SUMMARY REPORT OF CONFERENCE WITH EMPLOYER REPRESENTATIVES

CHICAGO MARRIOTT
Chicago, Illinois
August 28, 1975

PROJECT EDNEED
Center for Occupational Education
North Carolina State University at Raleigh
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# PREFACE

The Chicago mini-conference for representatives of employer groups was conducted as one of a number of activities outlined in the scope of work of Project EDNEED I (Empirical Determination of Nationally Essential Educational Data). Funded through U. S. Office of Education Grant #OEG-0-74-1654 to the Center for Occupational Education, North Carolina State University at Raleigh, EDNEED was designed as a preliminary step toward the future development of a basic vocational education data system. Such a system could solve a number of problems associated with data needs, data collection, data aggregation and data utilization at national, state and local levels for purposes of planning, evaluation, finance and budgeting and public information. A brief summary of the total project is included as Appendix A.

The Center for Occupational Education is deeply indebted to Mr. Robert Craig, Director of Communications for the American Society for Training and Development, who recommended participants for selection and assisted in planning the conference, and to the Society itself, from whose ranks the conferees were drawn. The appreciation of the Center is expressed to the following individuals and their respective companies: Vincent Miller, Whirlpool Corporation; Eugene Bertschi, Caterpillar Tractor Co.; Ken Jatko and Arthur Oriel, private consultants; all of whom contributed their professional expertise in the interests of better industry/education communications.

The report indicates the extent to which the refinement of the EDNEED Classification document was considered and includes recommendations for its further improvement. The report also reveals the concerns of the conferees with issues deserving continued attention in the future establishment of a vocational education data system.

G. William Porter
Director, Project EDNEED I

John E. S. Lawrence
Co-Director, Project EDNEED II

TABLE OF CONTENTS


| | Page |
|---|---|
| MINI-CONFERENCE PURPOSES AND PROCEDURES | 1 |
| Background | 1 |
| Objectives and Procedures | 2 |
| FINDINGS AND RECOMMENDATIONS | 3 |
| APPENDICES | 9 |
| Appendix A. Summary of Project EDNEED | A-1 |
| Appendix B. Conference Guide | B-1 |

MINI-CONFERENCE PURPOSES AND PROCEDURES

## Background

The mini-conference for employer representatives was held in compliance with recommendations made by a previous conference of national vocational education data users, held at Annapolis, Maryland, on March 16-18, 1975. (See PROJECT EDNEED: Report of the Conference on the Determination of Nationally Essential Educational Data, Center for Occupational Education, North Carolina State University, Box 5096, Raleigh, N. C. 27607.) Because of the relationship of the two conferences, the Annapolis conference will be briefly described in order to provide a background against which the Chicago mini-conference can be understood.

Prior to the national conference in Annapolis, an initial pool of 323 frequently asked questions in vocational education was identified. Over 2300 information elements potentially capable of providing answers to the questions were collected and organized along with the questions into a document consisting of 18 data files entitled PROJECT EDNEED: Classification of Information for the Development of a National Vocational Education Information System. This document, accompanied by a complete set of instructions for checking and rating the questions and information elements, was mailed several days in advance of the conference to a wide spectrum of agency representatives, authorized to speak to the vocational education information needs of their constituencies. Over 50 designated representatives of nearly 40 of these agencies sharing a common interest in vocational education participated in the working conference at Annapolis.

The purposes of the national conference were threefold:

1. to review and critique the questions and information elements in the EDNEED Classification document.

2. to identify issues and problems associated with the design, inauguration and operation of a nationwide system of vocational education information.

3. to provide recommendations as to how the issues and problems identified can be resolved.

In fulfilling the above objectives, a number of recommendations with regard to the adequacy of the EDNEED Classification document were made. Included among them were suggestions by the Annapolis conferees that more and stronger linkages among labor, industry and education would be desirable, and that the document should include more information,

probably from sources outside the education system, on manpower supply and demand. Further, it was recommended that additional outcome and impact data, particularly with regard to secondary education dropouts, completers and early leavers based on one and five year follow-up studies, be included. Finally, many of the Annapolis conferees were vehement in their recommendation that the planned mail-out survey was not the way to secure the additional information and participation needed. They suggested that a series of conferences or mini-conferences be held in lieu of such a survey.

In an effort to comply with these recommendations Project EDNEED was altered amidstream. The mail survey was eliminated and replaced by two mini-conferences, one for state directors of vocational education and one for representatives of employer groups (the subject of this report); and one larger conference for local administrators of secondary, postsecondary and proprietary vocational education programs. The two mini-conferences were held on the same day (August 28, 1975) with the state directors meeting in Raleigh, N. C. and the employer representatives in Chicago. The conference for local administrators was also held in Chicago on September 17, 1975.

## Objectives and Procedures

The mini-conference for employer representatives incorporated generally the same objectives and procedures that were utilized in the Annapolis conference for national user group representatives described above. A discussion guide, list of participants and agenda are included as Appendix B of this conference report. In addition, answers were sought at the mini-conference to the following three questions:

1. What is the role of the employer as a user of information about public vocational education?

2. What kinds of information can best be used to assess the impact or effectiveness of vocational education?

3. What kinds of information can or should employers generate or contribute to a vocational education information system?

In the discussion of the adequacy of the Classification document, the participants were asked to pay particular attention to strengthening the document in the area of outcome or impact data. This task relates to objective number one cited previously as a purpose of the national conference as well as to question number two above. A major share of the mini-conference time was devoted to these two issues. Since the discussion guide (Appendix B) was not closely followed, the findings and recommendations are presented in the next section in chronological order, rather than by topic or objective.

## FINDINGS AND RECOMMENDATIONS

The meeting began with the presentation of a brief overview of Project EDNEED by the project director, followed by the discussion of the objectives of the mini-conference and the relatively unstructured procedures to be utilized.

Opening participant comments centered on the EDNEED Classification document which they had rated and checked prior to coming to Chicago. More specifically, the participants felt it was too long and that the questions contained in it had little relevance for people in industry. The phraseology employed was often "foreign" to the industry representatives. It was pointed out that the document was reflective of a historic communications gap between the users of the educational system and the system itself. The document was also reflective of the difference in approach utilized by education and industry, the methods of the latter being far more direct.

The participants realized, however, that although meetings between education and industry had not and probably would not solve all the problems between the two, such meetings were a necessary and often neglected first step. The participants also realized that the inapplicability of the EDNEED Classification to the information needs of industry was the prime reason for the mini-conference, along with the identification of those elements of data of most interest to industry in its role as a user of the products of the educational system. Nevertheless, there was understandable reluctance to discuss specific changes in the EDNEED Classification document until some of the larger issues of which the document was symptomatic were aired. Thus, the entire first session revolved around the general communications gap between education and industry and encompassed the following issues:

1. The objectives of the educational system, if not irrelevant to, are at least different from the objectives of industry.

In meetings with educators, industrial trainers have often experienced a tendency on the part of educators to be preoccupied with rigid semester time frames, curriculum requirements, and development of processes over time as opposed to concern for outcomes. Industry tends to look at potential employees in terms of their capabilities on the shop floor, rather than in terms of credentials specifying the number of hours they may have spent in a training situation. While exemplary "cells of cooperation" at the local level can be identified between industry and public vocational education, there appears to be in general, "no jellybeans to educators for meeting industry's objectives." In short, the requirements of the school often have little to do with the requirements of the factory.

2. Both education and industry have difficulties in keeping up with rapid technological advances, but such advances pose unique problems to educators.

Several participants noted that they had observed obsolete equipment being used in some instructional circumstances, as well as inappropriate and outdated teaching techniques. Newer concepts such as andragogy and performance-based education have apparently not been incorporated into a majority of classrooms and shops. Concomitantly, the industrial representatives were critical of their own role, acknowledging that industry has not done all that it could have in terms of disseminating information to educators about new techniques, nor in helping to provide the means for vocational educators to become updated. These observations served as the basis for recommendations (presented later in this report) to the effect that a national vocational education data system should be constructed in such a way that information on currency of equipment and techniques and the degree of diffusion and use of new techniques could be determined.

Although a lack of receptiveness of educators to change was seen as a problem, several examples of successful industry/education cooperation were cited. One involved a situation in which a top-notch industrial instructor was supplied to a university manufacturing and technology school at the university's request and at the expense of the company. Thus, for one year, education was provided with a "real world" instructor at industry expense. It was suggested that any national vocational education data system should include information on industries willing to cooperate in this way with schools.

Reference was also made to traditional education/business-industry exchange programs which have met with mixed results. There have been instances, for example, where instructors were brought into industry from educational settings and put to work in research areas rather than in manufacturing areas and/or may have been placed in fields other than those related to their teaching specialty. Despite these problems and some natural resistance on the parts of both education and industry, it was the consensus of the mini-conference that any attempt at communication between the two groups will more than likely be advantageous to both.

3. Forces which precipitate change in society affect public education and industry differently. Many of these forces appear to be moving industry and the schools farther apart.

Examples were provided in two areas, one relating to changes in the schools and the other to changes in government policies. Widespread "social promotion" through grade 12 has solved a number of problems for the schools and for individuals and their families. Thus it may be possible for students to move through school without being required to demonstrate a great deal of capability, something which does not often happen in industry, even in those where seniority is the prime consideration in promotion. Individuals in industry are usually not advanced

unless there is strong reason to believe they can do the job. A study was referenced in which 180 high school and two year college graduate apprentices were found to have a mean reading level of grade 8. There was a feeling among the employer representatives "that we don't know what high school graduation means, anymore."

Government policy changes in the form of legislation, judicial action and/or administrative directive not only affect industry and the schools differently, but also have implications for data collection. Two examples related to civil rights legislation were cited. The first concerned a ruling by one part of the Justice Department that racial data should be collected to ensure fair treatment of minority groups while at the same time another branch ruled that to collect such data would be a violation of the Civil Rights Act. In the second example, it was recognized that while such legislation and resulting social change have created one set of problems for the schools (busing, discipline, etc.), they have created an entirely different set of problems for industry. New pressures which industry feels include those which require the provision of information such as precise job requirements and specific criteria for personnel selection in employment, training and promotion. Often industry is asked to implement new provisions immediately, while curriculum changes in the schools, for example, tend to be more gradual.

4. Vocational education programs (as do any training programs which take place primarily "off the job") have inherent difficulties in providing training specifically related to a given job situation.

It was recognized that cooperative programs, work experience programs, work/study programs and certain related special arrangements which involve between 1/2 and 1 million students are one way around this problem. Nevertheless, many vocational graduates find their way into industry who seem never to have been exposed to the flavor of a production shop, for example, nor to the time/quality constraints associated therewith. To provide such experience would be very expensive since a considerable quantity of valuable materials would have to be processed by each student before production speed and quality could be attained. It was noted that industry is often willing to provide such materials as well as machinery and/or space. Some public vocational education administrators and instructional personnel get far more than their share of such assistance from their local industries because they have developed profitable relationships with industry representatives and are aggressive about seeking such aid. Unfortunately, this is not always the case. Conversely, industrial representatives have often shown reticence in making the first contact with school personnel. The suggestion was made that both groups could do more in this area.

5. There is a paucity of "hard" data available nationally on both the costs and the benefits of vocational education.

The National Advisory Council on Vocational Education has estimated that the nation as a whole spends $3 billion annually on vocational education, 84% of which are state and local monies. Construction and equipment expenditures have exceeded 1.6 billion since 1971. Some 13 1/2 million students are currently being served. One of the participants recalled a study done by the University of Michigan which reported that private industry expends between 35 and 36 billion dollars per year on education and training in the United States and Canada. Some of this money is utilized to send people to established institutions in the public sector, but the greater share is spent on internal training programs in business and industry. No estimate was immediately available on the number of persons served.

This discussion of data and costs marked the end of the general discussion and prompted the group to turn their attention specifically to those areas in the EDNEED Classification where the industry representatives might have suggestions for its improvement. Most of the second and virtually all of the third mini-conference sessions were devoted to a page-by-page consideration of the EDNEED Classification document in terms of its adequacy as a vehicle for meeting the vocational education data needs of industry. Scores of practical and useful suggestions regarding additions, deletions and changes in specific questions and information elements were recorded by the project staff and will not be recounted here. An attempt will be made, however, in the remainder of the report to capture the essence of these suggestions through a presentation of the general categories into which they could be classified with examples provided for clarity where necessary.

1. The EDNEED Classification document and any information system which might be based on it would be far more effective as a device for the justification of expenditures than as a mechanism for providing data useful for program planning and evaluation.

2. The Classification was characterized as being a "cold," "mechanistic," accounting-type administrative tool with an historical rather than futuristic orientation. Although the document is far more process than product-oriented, it approaches process in a quantitative rather than a qualitative manner. One participant noted that two school systems could be identical in numbers of staff, types of staff, credentials of staff, monies expended, facilities, equipment, etc. and still be widely different in the quality of students turned out. It would be difficult to discriminate between the two in terms of effectiveness of instruction on the basis of the items in the Classification.

The document could be improved by supplementing the present approach with some questions and information elements which would be concerned with the quality of the relationships among students, faculty and those persons in the community who serve and are served by the school. More specifically: How do these three groups collaborate? What methods do they use to solve problems? Make decisions? Resolve conflicts? How do they ensure that solved problems stay solved? What concepts are employed to integrate the needs of temporary groups of students and the more permanent faculty and administration?

3. Questions relating to professional development for local staff (i.e., the extent to which teachers kept pace with new technological and industrial developments) were of great interest to the group and received a disproportionate share of comments. Examples for additions have included: How active is the school in soliciting business and industry toward developing more professional exchange programs? Is there a program for teacher updating and upgrading of skills through direct participation in industry? If so, how often do teachers go back to industry? What do they do there? What degree of industrial proficiency did they attain?

More data on staff career development in LEA's and SEA's need to be obtained as a way to help determine organizational efficiency. An organization can improve its productivity through encouragement of staff professional development and through feedback and suggestions from employees to management.

Information about staff career development should include data on staff interpersonal skills, e.g., How well does he/she analyze problems, identify key issues, propose/evaluate alternative solutions? Communicate, listen, persuade? Set goals, identify priorities, develop plans for action? Make decisions? Handle conflicts? Deal and interact with subordinates, peers and superiors? Use time?

4. Modification of the Classification to emphasize "learning hours" rather than contact hours, performance or terminal objectives (TERMOBS) rather than credits and credentials, and validated skill tests and instructor observations rather than traditional school tests is necessary. Only a student's reading level and possibly his mathematical competence were of interest to the group. "We want to know what he can do, not what he knows."

5. The Classification should be altered to include information about learner-controlled instruction and student participation in curricula planning. "To what extent is the school student-centered?" In short, more emphasis on androgogy, less on pedagogy.

6. Provision should be made for the collection of information about the task structure of jobs so that such information can be used as a base for curricula development. "The curricula should be based on industry standards, not on what people think."

7. More information should be collected on the role, function and effectiveness of craft committees and local and state advisory councils. The group felt that such groups could be and were in many cases extremely effective, but that in other cases much improvement could be realized.

8. The Classification should include questions and information elements concerning the degree to which school curricula relate to local and regional manpower needs. Questions should also be devised to determine the impact of local advisory councils on the schools.

9. The lack of universal agreement on definitions of terms in vocational education is a problem which will have to be solved before a national information system can become a reality.

10. Improved techniques for ensuring that vocational educators maintain regular and profitable contacts with industry and with new industrial manufacturing and processing methods must be found. The EDNEED Classification provides for the collection of data about the frequency of such contacts, but not on their quality.

As the participants worked their way through the EDNEED Classification, their feelings toward the document and toward the entire EDNEED undertaking became increasingly more positive. It should be noted that many of the recommendations made in the latter part of this section are closely related to the more general issues and concerns discussed earlier. Comments made by the participants were candid, but were made in the spirit of genuine interest in and concern for the improvement of vocational education/industry communications and subsequently of vocational education itself.

# APPENDICES

# APPENDIX A

## SUMMARY OF PROJECT EDNEED

SUMMARY OF PROJECT EDNEED

The project was designed as an important first step toward the future development of a Basic Vocational Education Information System. Its purposes are (1) to determine, through empirical investigation, information elements which satisfy the shared vocational education informational needs of national, state and local user groups; (2) to prioritize the information elements so derived according to the degree of shared importance across user groups; and (3) to determine similarities in information needs across user groups.

The rationale for the project is based upon clearly documented problems associated with data needs, data collection, data aggregation and data utilization at national, state and local levels. Many of these issues received attention at the conference and are, therefore, included elsewhere in the report.

The central premise of the project is that from the total universe of data that could be made available, some basic core of information elements can be empirically derived which will meet the shared needs of data users across the various sectors and levels of vocational education. More specifically, the emphasis throughout the project has been to ensure that the information elements selected to make up the eventual core be empirically determined through ratings by individuals representative of

users of information about public and private vocational education in elementary/secondary and postsecondary schools, as well as adult education, business and industry and the military.

Operationally, Project EDNEED has been divided into four phases: (1) the identification of frequently asked data questions and those information elements deemed necessary to provide answers to those questions; (2) the refinement of the data questions and information elements by national, state and local user groups; (3) the rating of the questions and information elements by representative data users and producers at all three levels; and (4) the analysis of the rating to determine priority data needs across groups and levels and the production and dissemination of a final report.

In the first phase, an initial item pool of frequently asked questions in vocational education was identified. Information elements potentially capable of providing answers to the questions were gathered and organized into a preliminary document consisting of twenty data files. Information supplied by user groups was the key resource for the identification of these questions and information elements. Other major sources included congressional legislation and testimony, professional literature, state data systems, professional organizations and other federal, state and local agencies involved in using or producing vocational education data.

In Phase II the preliminary document was reviewed by representatives of six organizations at the national level directly concerned with vocational education. As a result of the recommendations from this review, the preliminary taxonomy was revised into the EDNEED Classification document consisting of 323 questions and more than 2340 information

elements organized into 18 data files. The document was mailed to the conferees prior to the Annapolis conference. Also in Phase II, a lexicon of definitions of terms used in vocational education was developed. The lexicon was available at the conference in the event that any of the conferees were unfamiliar with any of the terms employed in the Classification. The final activity in the second phase of the project was the conference involving an expanded group of national users in Annapolis, Maryland. Prior to the conference, the individuals involved responded to the Classification document by rating and checking the questions, and the files and information elements included. At Annapolis the conferees considered the adequacy of the Classification in terms of scope and depth of coverage, as well as problems and recommended solutions to the problems associated with the possible implementation of a national vocational education data system.

The third phase of Project EDNEED, originally envisioned as a mail-out survey to secure priority ratings of selected files and information elements in the Classification from individuals representative of state and local jurisdiction, was modified as a result of input from the Annapolis conference. Instead of a mail survey, two more conferences of the Annapolis genre will be held, one for state directors of vocational education and one for local vocational education administrators from secondary programs, community and junior colleges, technical institutes and postsecondary proprietary schools. A mini-conference of representatives from employer groups will be held to secure their ratings and to provide suggestions for strengthening the Classification toward better impact measures.

Phase IV, the final operational step, will center on the analysis of data gathered in the second and third phases and its incorporation into a final report. Analysis of checked and ranked Classification documents will focus on the rank ordering of the data questions according to their shared importance at each of the national, state and local levels. It is expected that questions and their associated information elements which are seen as commonly needed by all three levels will thus be identified. Data questions will also be prioritized both within and across levels according to six use categories (planning, operations, evaluation, finance and budgeting, reporting requirements and public information). Thus questions in the Classification will be classified according to priority by level, by use category within each level and by use category across all levels.

The benefits of Project EDNEED to the field are expected to be many. Since the project consists of efforts to determine empirically the demand for various kinds of data in order to define the kind of supply which best meets that demand, EDNEED is expected to result in the specification of the minimum number of common data file questions and information elements reflective of the needs of the greatest number of user groups. The resultant core will consist of essential items grouped according to constituency demands and organized to indicate the data file questions and information elements that have the most importance to identifiable user groups. Data file specification and subsequent data element definition have important implications for research, planning and evaluation. Further, through the employment of

cost/effectiveness techniques, it is possible that a maximum-benefit/least-cost information system can be developed, which will place heavy reliance on increased coordination among data systems already in place.

# APPENDIX B

## CONFERENCE GUIDE

CHICAGO MARRIOTT
Chicago, Illinois
August 28, 1975

# GUIDE FOR CONFERENCE WITH EMPLOYER REPRESENTATIVES

PROJECT EDNEED
Center for Occupational Education
North Carolina State University at Raleigh
Raleigh, North Carolina

## Introduction

The Classification of Information is an aggregation of data files and items designed to serve as a base for a Vocational Education Information System. It has been organized into data files and items, in order to facilitate the process of data collection and the task of assembling information relating to the quantity and quality of programs and curriculums that prepare individuals for work, that enable them to update and/or upgrade themselves in occupations, and/or to prepare themselves for new and emerging occupations.

In its present form, the Classification represents the collective efforts of national advisers, the staff of the Center for Occupational Education, and that of many other individuals in agencies concerned with vocational information.

The task to be completed at our meeting in Chicago consists of refining the Classification, and in obtaining advice and guidance from employers on major matters of policy and procedures relating to the establishment and operation of a National Vocational Education Information System.

Individuals to be assembled in Chicago represent business and industry employers; all have in common vital interests in training, its description, quality, quantity and measurement. It is essential to the success of our meeting on this project that each participant consider such questions as the following concerning the Classification, and then make such suggestions as will improve and help make the present document ready for its intended further field-testing, followed by the steps required to "set in place" a national system of vocational education information.

## Work Session 1

Topics for Discussion

1. Do the data files in the Classification adequately reflect the need for information concerning vocational education, as expressed by education, government, business and industry spokesmen?* Are there other data files that should be included in the Classification? Are there data files that should be deleted? What modifications in the structure of the Classification do you recommend?

2. Do the items in each file adequately reflect the information that is needed about vocational education by education, government, and employers in business and industry? Is each subfile and item clear and understandable? Are there data subfiles and items that should be added? Are there data subfiles and items that should be deleted? Are there data subfiles and items that should be reworded or modified?

## Work Session 2

Topics for Discussion

1. What are the issues and problems from your viewpoint as an employer that are associated with the design, inauguration and operation of a nationwide system of vocational education information?

2. Are there other groups or agencies in the same field? How should the several systems interface? What are the problems of organizing to effect interfacing?

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*To facilitate the work of reviewing the Classification, the Center staff has prepared a "Lexicon of Definitions." Only those definitions have been included in the document that refer to phraseology used in the Classification. Copies of the "Lexicon of Definitions" are available for use through your Center staff resource person.

3. Are there legal and/or governmental problems, restrictions, regulations, company policies or other impediments that must be considered?

4. What are some of the options open with regard to the nation-wide financing of such a system?

5. What are some of the problems of system management that must be anticipated?

6. Other?

## Work Session 3

### Topics for Discussion

1. What recommendations can the committee make as to how the identified issues and problems may be resolved? (See results of Work Session 2.)

2. What steps are needed, and which agencies should take the steps, in order to insure that a National Vocational Education Information System will be responsive to the special needs of constituency groups?

3. What methods should be used to interface the proposed national system of vocational education information with the already existing data systems, in order to maintain the integrity of the information with a minimum of restructuring existing systems? What "crosswalks" would need to be established?

4. Are there currently existing sources of information not previously identified that could be utilized? What and where are they?

5. What suggestions can be provided concerning the uses of a vocational education information system for purposes of decision-making in:

a. planning and organization of vocational education;

b. evaluation of outcomes;

c. financing vocational education programs on local, state and/or federal levels;

d. utilization of facilities; and

e. other?

AGENDA

| | | |
|---|---|---|
| 9:00 a.m. | Opening Remarks, Instructions, Procedures, Travel Reimbursement Concerns, etc. | |
| 10:00 a.m. | Work Session I | (See Guide for Conference . . .) |
| 12:00 Noon | Lunch | |
| 1:30 p.m. | Work Session II | (See Guide for Conference . . .) |
| 3:00 p.m. | Work Session III | (See Guide for Conference . . .) |
| 4:00 p.m. | Closing Remarks - Adjournment | |

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PROJECT EDNEED:

# SUMMARY REPORT OF CONFERENCE WITH LOCAL ADMINISTRATORS OF VOCATIONAL EDUCATION

O'HARE INN
Chicago, Illinois
September 17, 1975

PROJECT EDNEED
Center for Occupational Education
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# PREFACE

The Chicago Conference for Local Administrators was carried on as one of a number of activities outlined in the scope of work of Project EDNEED (Empirical Determination of Nationally Essential Educational Data). Funded through U. S. Office of Education Grant #OEG-0-74-1654 to the Center for Occupational Education, N. C. State University at Raleigh, EDNEED was designed as a preliminary step toward the future development of a basic vocational education data system. A brief summary of the larger project is included as Appendix A.

The twenty-two participants in the conference were recommended by their peers, professional associations, and others as being among the nation's outstanding local administrators of vocational, technical and occupational education. Large city school systems, medium-sized city school systems and rural community school systems were represented, as well as technical institutes, community colleges and proprietary schools. A list of participants is included as Appendix B. The Center for Occupational education is most appreciative of the effort, time, advice and wisdom provided by each.

This report of the conference proceedings indicates the extent to which the questions and information elements contained in the EDNEED Classification document were considered by the conferees, both prior to and during the conference. The report reveals the concerns of the conferees with policy matters and issues deserving of continuing attention, as well as some of the proposed solutions to problems anticipated in the future establishment of a vocational education information system.

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TABLE OF CONTENTS


| | Page |
|---|---|
| PREFACE | ii |
| CONFERENCE PURPOSES AND PROCEDURES | 1 |
| FINDINGS AND RECOMMENDATIONS | 3 |
| Adequacy of the Classification | 3 |
| Secondary Group | 3 |
| Postsecondary Group | 7 |
| Problems and Solutions | 9 |
| Full Conference | 9 |
| APPENDICES | 13 |
| Appendix A: Summary of Project EDNEED | A-1 |
| Appendix B: Conference Participants | B-1 |
| Appendix C: Guide for Conference | C-1 |

## CONFERENCE PURPOSES AND PROCEDURES

Prior to the conference, an initial pool of frequently asked questions in vocational education was identified. Information elements potentially capable of providing answers to the questions were collected and organized along with the questions into an EDNEED Classification document consisting of 18 data files. This process is described in more detail in Appendix A.

The EDNEED Classification document accompanied by a complete set of instructions for rating and checking the questions and information elements was mailed several weeks in advance of the conference to the 22 local vocational, technical and occupational education administrators selected to participate. All were asked to consider the need for each data item from their standpoint as local administrators prior to attending the conference at the O'Hare Inn, Chicago, Illinois, on September 17, 1975.

Also included with the packet of information mailed to participating local administrators of vocational education in advance of the conference was the report of the Annapolis conference of March, 1975 a somewhat similar working conference concerned with the input and reactions of national users of data. It was expected that the review of the Annapolis conference proceedings and its results would assist the local administrators in their checking and rating of the Classification and in their consideration of problems mentioned in the third conference objective enumerated below.

The purposes of the conference were threefold:

1. to determine data needs of representative local administrators;

2. to review and critique the questions and information elements in the EDNEED Classification document, with particular emphasis on possible omissions; and

3. to identify and to provide recommendations for the solution of problems and issues to be anticipated in connection with the design and operation of a nationwide system for providing vocational education information.

In order to facilitate the review and critique of the EDNEED Classification document and to obtain as many suggestions as possible in a limited time period, the conference was divided into two work groups during the 9:00 a.m. to 12:00 noon session on the basis of interest. One group consisted primarily of local directors of vocational education and was essentially oriented toward the concerns of public secondary school vocational education. The other group consisted primarily of community college, technical institute and proprietary school administrators and was oriented toward postsecondary vocational, technical and occupational education.

Following lunch, the two groups were brought back together to discuss the problems to be anticipated in installing and operating a national vocational education data system that would be of service to national, regional, state and local agencies. At the same time that problems were under consideration, solutions were offered and discussed. A copy of the discussion guide supplied to the participants prior to their attendance at the Chicago meeting is included as Appendix C.

## FINDINGS AND RECOMMENDATIONS

### I. Adequacy of the EDNEED Data Classification Document

#### Secondary Group

1. The Classification is extremely comprehensive and global in nature. Before it can have any practical utilization by local administrators of vocational education, condensation or weeding out of many of the data items, and possibly some of the data files must occur. Further, it was noted that the design of the Classification made it possible for ratings of data items to change with the requirements and uses for the data. For example, in one case data might be used for compliance while in another instance by the same local administrator, the same data could be used for public information or reporting on the operation of a unit.

2. Of all 18 files in the Classification, files 12 - 18 are needed less than any of the others at the local level. For the most part, these files consist of data of usefulness to state education agencies and are needed little (if at all) on the local level. However, many of the data must be obtained and supplied to state officials, in order that the locals may be as helpful as possible to the agencies that are in position to be helpful to them. It was recognized further that state agencies have continuing requirements to provide legislators with answers to questions constantly being directed to those agencies; thus, reliable data must be supplied to the state by the local administrators if any kind of coordination and unified state operation is to result.

3. The ratings required in the Classification are confusing. The separations between the numerical checking indicators are arbitrary. A local administrator is active in all of the use categories from "planning and organization" to "public information" at the same time, and does not often need and use data for only one purpose. Hence, it was pointed out that any individual who rated the Classification at a particular time might supply quite different ratings a week later, if something else came to mind or if his attitude with regard to one part of his many administrative responsibilities appeared to have gained dominance.

4. Many data indicated in the first 12 files are in fact collected by some states at the present time. These data included in a state MIS can be of value to the state, and should certainly be made available for use by local administrators. There should be no problem in obtaining data where they are being collected. The problem that may be anticipated in the future is the organization of a national vocational education data system that would be compatible with the many different state systems that are already in operation.

5. The data Classification is a giant step in establishing a national system of vocational education data collection, with emphasis on uniformity of data and format. Such a system is critically needed in the nation, if the aggregation of the data is to be meaningful, and if one state is to have any relationship or basis for comparison with another state. Hopefully, the data system (when and if it is established) will provide opportunities for the local administrators to retrieve data quickly for local use.

6. With so much data indicated in the Classification document, steps should be taken early to establish the priority users of data, and then to move on from that point to the consideration of which of the data should be collected first and for which urgent purposes. This is a most important matter, and would possibly be a partial solution in moving from the vast collection of 18 data files and thousands of data items to something of a more manageable nature. Such a procedure would enable local administrators to note the priorities that have been established in terms of users of data, and to identify data which are readily retrievable and usable locally.

7. One of the major problems that was encountered in checking and rating the data items in the Classification document concerned the question of "Is this a matter of what is in vocational education, or is it a matter of what should be?" For example, in the data file which deals with curriculum choices, it is not clear whether a particular curriculum is needed.

8. A question that was of considerable concern to a number of the local administrators was that of the practical usability of the data. For example, the data item that deals with placement of graduates and early leavers was indicated as an issue that is not clearly defined. In some states, and even in some school districts, unless 51 percent of the completers of a curriculum are actually placed in jobs or in job-related activities to the curriculum completed, the curriculum must be terminated. A situation such as this might color the responses given in a nationally established vocational education data system, since the reporting of less than 51 percent placement of completers would require that the curriculum be terminated. The matter of decision-making based upon data alone might be unrealistic, the local administrators pointed out.

9. In File 1, there is room for additional data items, particularly those that deal with individuals who have expressed an interest and/or who wish to enroll in particular curricula, or in a particular series of courses. This is an important element in the planning and organization of vocational programs, since students' interests are of prime importance, even while planners consider manpower data as the basis in the region for skilled personnel.

10. There appears to be an urgent need in the Classification to provide data items for indicating whether curricula are short-term or long-term, and to what extent there is continuity and articulation between segments of short-term courses/curricula.

11. One of the major questions raised by the local administrators concerned the extent to which student interests and manpower demands within the school service area are coordinated or even related. The point was made that recognition of the influences which bear upon the "sociology of choice" are difficult to measure, and are certainly a difficult base upon which to collect and aggregate data. However, local administrators pointed out that the enrollments by student interest in vocational curricula often reflect manpower demands in the region. They suggested that one is a function of the other.

12. It would be of real advantage to vocational educators if all of the nonvocational aspects of File 1 were purged. While it was recognized that quality vocational education programs prepare individuals for participatory citizenship and with necessary social competencies, there was a feeling that vocational people might be out of their field in beginning to assess these variables.

13. Some of the data items indicated in the Classification would disclose information that should not be made available for purposes of public information, regardless of the manner in which the Classification was checked and rated prior to the conference. Many of the data, when not accompanied by back-up rationale and explanation, could unjustifiably be critical of the administration of a local program.

14. Some very early efforts should be made in defining defensible standards for outcomes in skills and knowledges acquired by individuals leaving or graduating from vocational education programs. It was pointed out that the data Classification deals almost entirely with inputs rather than outcomes and impacts. There is need for a sorting and sifting of data items in the process, which should result in a design to assure that the programs, curricula and courses reflect acquired competencies of the completers and the graduates.

15. The local administrators were impressed with the breadth of the Classification and particularly with its vocational education comprehensiveness. However, it was agreed by all of the conferees that all of the data would not be needed at all times. It was pointed out that some of the data would be needed only once for problems of planning and organization, while other items of data would be used regularly throughout the year for purposes of evaluation or even public information. The question was raised about how the data files and items would be shown in any final classification such that it would be clearly indicated that some data would be collected regularly while other data would be collected sporadically, only once, or periodically.

16. Uniformity of data definition is essential to meaningfulness, aggregation and understanding. It is dangerous to produce data that are not uniform by virtue of a lack of definition for the data items, and to then aggregate the data and use it broadly in the community, the state or the nation. Several of the local administrators pointed out that they would strongly oppose any procedure for the collection of data unless

clear definitions were provided for the purpose of collecting data. By way of illustration, it was pointed out that most states at the present time have an MIS, and that definitions used for the purpose of data collection in the respective states tend to vary. Hence, it is quite unlikely that data from the Management Information Systems in the states could be collated and used as the basis for a national vocational education information system. Confusion of definitions has resulted in no end of misunderstandings, and any proposed data system that will contribute to the perpetuation of the confusion should be opposed. Anything less than this would present a real danger to the programs of vocational education in the nation.

17. File 11 deals with the geographic areas served by vocational education, and questions were raised concerning the validity of the data items contained in File 11. It was stated that many of the data items are typical of those found in the usual publications of the Department of Labor and the Bureau of Labor Statistics. Used in the form that they are now, and with the implied understandings which they provide, the data when aggregated would be useless. Local administrators see little use for the broad BLS-published projections, and observed that many of the data questions raised in the Classification, particularly in File 11, were of a similar and useless type.

18. One of the local administrators pointed out that the state of Ohio through its Division of Vocational Education has developed a system of manpower data by school districts, available to any school district upon application to the Division of Vocational Education. This data system, supervised by Dr. Robert Balthaser of the Division of Vocational Education, provides many data similar to those which might be provided by a data system based on the EDNEED Classification.

19. There are a great many confusing data items in File 6. There is need for much more information on early leavers, completers, graduates, and even "late leavers." There is an urgency that these be kept separate, since in each case a different kind of end product is indicated. For example, the late leaver would indicate an individual who was slower in acquiring skills and technical knowledge in the school situation, and this kind of data would reveal to an employer or a user of the data that the competencies held by this individual were at some variance with competencies held by others who had completed the organized curriculum in less time, or within the usual stipulated length of time.

20. Files 12 through 18 contain a great deal of data relating to the state and its business in the field of vocational education. Care should be taken now to set the priorities on the uses that would be made of such data on a national level, on a state level and possibly on a regional level. The local administrators pointed out that the data aggregated in Files 12 through 18 would more than likely never be used on the local level. As indicated earlier in the morning session, several of the local administrators explained that the state director of vocational education becomes a facilitator between national users of data

and local providers of data. When the state director asks for specific items of local information which will subsequently be aggregated and used on the national level, his position as the state director needs to be understood and supported.

21. In several of the files there is evident or apparent duplication of data items, and some of these have been so indicated in the marked copies of the Classification that were checked and rated. For example, early leavers in a school system are mentioned in several files, particularly those which deal with curriculum, school information and local education agencies (LEA's). To a few of the conferees, there appeared to be a need to examine possible duplications, to rule out the possibility that duplication could be interpreted as cross-checking, and to reduce the volume of the overall document.

22. As an overall opinion, most of the local administrators felt that far too much information would be collected, should such a Classification be accepted as the basis for the core of information needed. Even on the basis of a national core of information, questions were raised with regard to the need for such information as that concerning marital matters, that relating to health, last physical examination, etc. Here was a place where space could be saved, and the volume of the Classification reduced.

23. Several of the conferees indicated that the EDNEED project is much too ambitious a project, until such time as other tasks have first been completed. Notwithstanding the value and uses which appropriate vocational education data would serve for national, regional, state and local administrators, the urgent need for a Lexicon (or dictionary of terms) and the establishment of standards of utilization of these terms should precede anything else planned. While it was recognized that "a giant step forward" had been taken in the initial development of the Lexicon (which was on exhibit at the conference) several of the local administrators of vocational education urged that the Lexicon be further developed and made available widely. The urgency for this particular instrument as a facet of data collection was reiterated by all in attendance at the morning session, when they reported that unless something of the Lexicon variety was available at the same time that the EDNEED Classification was adopted for a national system, nothing but confusion would be the result.

## Postsecondary Group

1. It was generally agreed that the Classification document overall was more adequate as a base for gathering data on secondary education than as a base for meeting the data needs of technical institutes, community colleges, proprietary schools, CETA programs, etc. There is a strong secondary bias, particularly in terminology, definitions and structural orientation. For example, the definitions of postsecondary

and adult are dated and do not adequately cover all of the types of students now served by postsecondary education, particularly those who may never have been to high school or who are interested only in updating or upgrading skills.

2. Many of the data suggested for collection on students were found to be irrelevant for postsecondary and particularly for adult students. For example, birthplace, socioeconomic data about parents, etc., may not need to be asked. Other questions not included, however, may need to be asked, and some that are included may need to be asked differently out of respect to the age differences of the students. Specific examples for changes in the Classification were given by the group.

3. There was a general concern over the lack of standard definitions of terms throughout all of vocational and occupational education. Some conferees seriously doubted if the state-of-the-art in vocational education information systems can advance much further until the problem of non-standard definitions is solved. The Classification document not only reflected this concern, but also pointed up another: there may need to be different definitions of the same data elements, depending upon the collection or aggregation level.

4. Many of the terms in the Classification were somewhat foreign to postsecondary educators. "Pupils," used occasionally rather than students, was found to be particularly objectionable, for instance. Other terms familiar to postsecondary educators, representing items of information of usefulness to them, were not included; for example, ARC, impacted areas, Title 5, etc. More questions and information elements relevant to CETA programs would also have been helpful.

5. There was concern that the EDNEED Classification is accounting oriented rather than people oriented. It tends to be more reflective of the preoccupation with inputs and "nose counting" that has perhaps characterized vocational education in the past than of the "open door policy," androgogy and other more up-to-date notions associated with postsecondary education today.

6. Much time was devoted to very specific changes in the wording of various items in the Classification as the postsecondary group moved through the document. These suggestions were recorded, but will not be recounted here. Some of the more general recommendations for changes in the structure of the Classification were:

a. Organize the files or index them in such a way that information concerning postsecondary and adult education can be readily identified or "pulled out."

b. Consider consolidating Files 2, 3 and 4.

c. Consider separating rather than grouping the use categories so that a rater could check all the planning questions, then all the operations questions, etc.

7. Those files of most interest to postsecondary, adult and proprietary school educators were 1 through 8, and 11. It was mentioned that some of the items in Files 9 and 10 were also of interest, however.

## II. Problems and Solutions

### Full Conference

1. With additional data requirements being placed upon the local administrator of vocational education, the necessary funds to provide staff and data collection equipment and facilities should also be provided. It should be expected that if the bulk of the data are to be used on a national level; the source of support should come from a national agency. There was some discussion by other members of the group that a smoothly and efficiently operated system of vocational education data collection might, in the future, actually save time and money in the states.

2. At the present time there is no meaningful way for vocational education data currently being collected to be returned to the local user for his use in planning and organization, evaluation, public information or anything else. Hence, the local administrator must maintain his own files and system of data collection, in order that he may meet his local problems at a time when the use of the data is most needed. It was stated that in some cases when data are finally returned from the collection systems now in operation, they are often eighteen months out of phase with reality, and are of little if any use to the local administrator.

3. One of the major problems that should be anticipated in the future is the manner in which data are to be categorized. It was suggested that data should be separated by purpose. Then, those data needed for planning and organization would be quite different from those needed for public information, evaluation or other purposes. For example, program characteristics need not be obtained every year; hence this type of information for public information purposes should be categorized separately from other kinds of information. Also, as an example, it was pointed out that in inaugurating an automobile mechanics program, certain data would need to be available for that purpose as an initial matter, but they would not be needed for succeeding years.

4. Vocational educators should no longer measure fitness for employment of graduates, completers, late leavers and early leavers in terms of courses taken and hours spent in classrooms, laboratories and shops. Rather, individuals should be measured in terms of their acquired and demonstrable competencies in order that a position can be taken when the returns of placing persons in employment are scaled off against the costs of instruction. Further, employers, taxpayers and other concerned individuals could be assured of receiving far more usable information concerning the outcomes of the vocational education program than is presently available.

5. Definitions represent the most important problem to be faced by the EDNEED project. It was pointed out that South Carolina has initiated COPE (Community and Occupational Programs of Education). With a national system of vocational education data, it should be possible to interface activities such as COPE with the national system and to make certain that the definitions contained in each system are compatible.

6. "It doesn't seem as though it is going to be possible ever to get to the point of standardization of definitions, especially since a wide variety of new definitions are continually appearing." At the present time terms such as career education, occupational education and vocational education are used separately and with different definitions in some education agencies in the nation, but in other agencies they are used synonymously. If such diverse practices are to continue, then vocational education data collection will be an impossibility, and nothing but increased confusion can result. It is quite possible that conformity and uniformity of definitions are too much to hope for inasmuch as several additional terms are beginning to enter common usage, further confusing the issue. Prepostsecondary education and prevocational education are examples of such terms that amplify the need for a good and usable Lexicon with definitions specifically directed to the terms in the Classification.

7. With definitions as the base of operations for the beginning of a national system of vocational education data, it was suggested that the American Vocational Association as the leading professional organization be the agency to lead activities in this problem area, and to involve in the effort the community colleges and others who are appropriately connected with data collection and aggregation. It was pointed out that the AVA is the most appropriate national agency for the task. However, it was also mentioned by some that a special and separate "blue ribbon" committee would be able to take on the responsibility and become the special agency for the purpose of data gathering in the context of the taxonomy. Further discussion pointed out that the comprehensive nature of the data system calls for the broadest possible participation of all vocational education groups in the country, regardless of level, curricula, or lengths of curricula. This matter appeared to be one which will require some additional study since it must be the first problem to be solved in connection with a national

vocational education data system. Suggestions were made that a resolution be prepared and placed with the American Vocational Assocation for consideration at the Anaheim, California, convention of the AVA in December. In connection with this, there was a minor disagreement apparent between several of the conferees, one of whom opposed the idea of the resulution. However, an accommodation was sought and appeared to have been obtained that definitions that would result from such a proposed study would be prefaced by "for the purposes of data gathering in the context of the Data Classification." There was agreement that regardless of which group took primary responsibility for developing definitions, all other relevant groups must be involved.

8. There is no apparent point in waiting for consensus on definitions in the country as a whole, before preceding futher with EDNEED. Steps should be taken now by the EDNEED project to develop its own Lexicon (or dictionary) and to proceed ahead at full speed to make decisions on the definitions that are needed in order that data may be collected and aggregated. Even with different definitions in the states and in the local communities, the definitions provided in an EDNEED Lexicon would guide the data provider with all of the information needed to record the data in accordance with an appropriate category.

9. Some of the kinds of references to people and programs that have been made in the EDNEED Classification will have to be revised or even eliminated. Recent action taken by the federal courts has indicated that certain information about students may not be recorded unless the information is provided by agreement with students. For example, interpretations of the Buckley Amendment would make it impossible to obtain full information with regard to the earnings of cooperative vocational education students. Under the provisions of the law, there is no need to divulge such information on the part of the student, and hence there is every likelihood that incomplete data would result. It was urged that care be taken to maintain the confidentiality of information that is guaranteed to all individuals (the Buckley Amendment).

10. Many local administrators expressed doubts concerning the possibility of coordinating data-gathering in the states. Much information is available in the operating data systems, and steps would have to be taken to codify these systems and organize the transferral of information. Care will have to be taken to make certain that any present information in present data systems (such as the one operated under HEFA "Higher Education Facilities Act") is made available via "crosswalks" in order that data will not be replicated. A further suggestion indicated that where such data are available they ought to be readily translatable.

11. The Classification as a whole will need greater emphasis upon program areas than upon levels. One of the problems that will be encountered in almost every state is the confusion that presently exists between vocational education curricula that are being offered in institutions and identified by levels. For example,

it was pointed out that in one state the public school system is responsible not only for secondary vocational education but also adult education, postsecondary education, apprenticeship training, public service training and many other aspects of the vocational education spectrum. In other states, the levels of education established under the usual academic pattern constrain the vocational education program and make the data collection process quite different.

12. The Classification should give considerably more attention to the amplification of the "people side" of vocational education, and should also provide opportunities to record data relating to "people problems." It was observed that there is some danger that the EDNEED Classification tends to reflect the existing systems, and is not forward-looking enough to provide data on programs needed and people needed for the future.

13. Another area in the Classification that will require immediate attention is that which deals with aspects of the Comprehensive Employment Training Act (CETA). CETA has a data production system which has its roots in the Department of Labor and its Bureau of Labor Statistics. Any data system planned and organized for vocational education should be cognizant of the data system already in use in CETA, but even more important, should place some reliance upon the need to coordinate the educational data system with any projected data system for the CETA operations. To do otherwise may result in considerable data duplication. Further consideration should be given to the matter of building "crosswalks" to the present and future CETA data systems.

14. Proprietary and private schools provide data to state approving agencies in almost all states, and frequently supply data to the Veteran's Administration. These sources of information need not be duplicated in the EDNEED Classification or in any plan relating to a national system of vocational education information. The problem of identifying data sources should be anticipated early, and steps taken to interface with the state approving agency data system and the VA data system, in order that full information concerning student needs and manpower needs may be compared and appropriate data acquisition programs planned.

15. Every effort should be made to select an appropriate authority such as the Office of Education, the National Center for Educational Statistics or some other government-based agency to operate a national vocational education information system. Any attempt to establish a national data system for vocational education exterior to an authority-based agency will result in only partial participation by states, local agencies, and regional agencies. Further, wherever the data center is finally located may depend upon which data are needed, how frequently they are to be aggregated and the elapsed time between data collection and possible utilization on the national, state, regional or local levels.

# APPENDICES

# APPENDIX A

## SUMMARY OF PROJECT EDNEED

## SUMMARY OF PROJECT EDNEED

The project was designed as an important first step toward the future development of a Basic Vocational Education Information System. Its purposes are (1) to determine, through empirical investigation, information elements which satisfy the shared vocational education informational needs of national, state and local user groups; (2) to prioritize the information elements so derived according to the degree of shared importance across user groups; and (3) to determine similarities in information needs across user groups.

The rationale for the project is based upon clearly documented problems associated with data needs, data collection, data aggregation and data utilization at national, state and local levels. Many of these issues received attention at the conference and are, therefore, included elsewhere in the report.

The central premise of the project is that from the total universe of data that could be made available, some basic core of information elements can be empirically derived which will meet the shared needs of data users across the various sectors and levels of vocational education. More specifically, the emphasis throughout the project has been to ensure that the information elements selected to make up the eventual core be empirically determined through ratings by individuals representative of

users of information about public and private vocational education in elementary/secondary and postsecondary schools, as well as adult education, business and industry and the military.

Operationally, Project EDNEED has been divided into four phases: (1) the identification of frequently asked data questions and those information elements deemed necessary to provide answers to those questions; (2) the refinement of the data questions and information elements by national, state and local user groups; (3) the rating of the questions and information elements by representative data users and producers at all three levels; and (4) the analysis of the rating to determine priority data needs across groups and levels and the production and dissemination of a final report.

In the first phase, an initial item pool of frequently asked questions in vocational education was identified. Information elements potentially capable of providing answers to the questions were gathered and organized into a preliminary document consisting of twenty data files. Information supplied by user groups was the key resource for the identification of these questions and information elements. Other major sources included congressional legislation and testimony, professional literature, state data systems, professional organizations and other federal, state and local agencies involved in using or producing vocational education data.

In Phase II the preliminary document was reviewed by representatives of six organizations at the national level directly concerned with vocational education. As a result of the recommendations from this review, the preliminary taxonomy was revised into the EDNEED Classification document consisting of 323 questions and more than 2340 information

elements organized into 18 data files. The document was mailed to the conferees prior to the Annapolis conference. Also in Phase II, a lexicon of definitions of terms used in vocational education was developed. The lexicon was available at the conference in the event that any of the conferees were unfamiliar with any of the terms employed in the Classification. The final activity in the second phase of the project was the conference involving an expanded group of national users in Annapolis, Maryland. Prior to the conference, the individuals involved responded to the Classification document by rating and checking the questions, and the files and information elements included. At Annapolis the conferees considered the adequacy of the Classification in terms of scope and depth of coverage, as well as problems and recommended solutions to the problems associated with the possible implementation of a national vocational education data system.

The third phase of Project EDNEED, originally envisioned as a mail-out survey to secure priority ratings of selected files and infor-elements in the Classification from individuals representative of state and local jurisdiction,was modified as a result of input from the Annapolis conference. Instead of a mail survey, two more conferences of the Annapolis genre will be held, one for state directors of vocational education and one for local vocational education administrators from secondary programs, community and junior colleges, technical institutes and postsecondary proprietary schools. A mini-conference of representatives from employer groups will be held to secure their ratings and to provide suggestions for strengthening the Classification toward better impact measures.

Phase IV, the final operational step, will center on the analysis of data gathered in the second and third phases and its incorporation into a final report. Analysis of checked and ranked Classification documents will focus on the rank ordering of the data questions according to their shared importance at each of the national, state and local levels. It is expected that questions and their associated information elements which are seen as commonly needed by all three levels will thus be identified. Data questions will also be prioritized both within and across levels according to six use categories (planning, operations, evaluation, finance and budgeting, reporting requirements and public information). Thus questions in the Classification will be classified according to priority by level, by use category within each level and by use category across all levels.

The benefits of Project EDNEED to the field are expected to be many. Since the project consists of efforts to determine empirically the demand for various kinds of data in order to define the kind of supply which best meets that demand, EDNEED is expected to result in the specification of the minimum number of common data file questions and information elements reflective of the needs of the greatest number of user groups. The resultant core will consist of essential items grouped according to constituency demands and organized to indicate the data file questions and information elements that have the most importance to identifiable user groups. Data file specification and subsequent data element definition have important implications for research, planning and evaluation. Further, through the employment of

cost/effectiveness techniques, it is possible that a maximum-benefit/least-cost information system can be developed, which will place heavy reliance on increased coordination among data systems already in place.

# APPENDIX B

# CONFERENCE PARTICIPANTS

CONFERENCE PARTICIPANTS
EDNEED CONFERENCE

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Chicago, Illinois
September 17, 1975

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# APPENDIX C

# GUIDE FOR CONFERENCE

O'HARE INN
Chicago, Illinois
September 17, 1975

# GUIDE FOR CONFERENCE WITH LOCAL ADMINISTRATORS OF VOCATIONAL EDUCATION

PROJECT EDNEED
Center for Occupational Education
North Carolina State University at Raleigh
Raleigh, North Carolina

## Introduction

The Classification of Information is an aggregation of data files and items designed to serve as a base for a National Vocational Education Information System. It has been organized into data files and items, in order to facilitate the process of data collection and the task of assembling information relating to the quantity and quality of programs and curricula that prepare individuals for work, that enable them to update and/or upgrade themselves in occupations, and/or to prepare themselves for new and emerging occupations.

In its present form, the Classification represents the collective efforts of national advisers, the staff of the Center for Occupational Education, and that of many other individuals in agencies concerned with vocational information.

The task to be completed at our meeting in Chicago consists of critiquing the Classification, and in obtaining advice and guidance from the Local Administrator conferees on major matters of policy and procedures relating to the establishment and operation of a National Vocational Education Information System. Directly following the meeting, the final draft of the Classification will be prepared and made ready for additional field tests.

The Local Administrators to be assembled in Chicago represent city boards and county boards of vocational education; all have in common vital interests in vocational education, its description, quality, quantity and measurement. It is essential to the success of our meeting on this project

that each participant consider such questions as the following concerning the Classification, and then make such suggestions as will improve and help make the present document ready for its intended field-testing, followed by the steps required to "set in place" a national system of vocational education information.

Discussion on Adequacy of Classification

9:00 a.m. to 11:00 a.m.

1. Do the data files in the Classification adequately reflect local needs for information concerning vocational education, as expressed by education, government, business and industry spokesmen?* Are there other data files that should be included in the Classification? Are there data files that should be deleted? What modifications in the structure of the Classification would you recommend?

2. Do the items in each file adequately reflect the information that is needed about vocational education by local-level education, government, business and industry? Is each subfile and item clear and understandable? Are there data subfiles and items that should be added? Are there data subfiles and items that should be deleted? Are there data subfiles and items that should be reworded or modified?

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*To facilitate the work of reviewing the Classification, the Center staff has prepared a "Lexicon of Definitions." Only those definitions have been included in the document that refer to phraseology used in the Classification. Copies of the "Lexicon of Definitions" are available for use.

Discussion on Problems in Setting Up
A National Data System

11:00 a.m. to 12:00 noon
1:00 p.m. to 2:00 p.m.

1. What are the issues and problems within your local administrative unit that you believe are associated with the design, inauguration and operation of a national system of vocational education information?

2. Are there other agencies in the same field of data collection, aggregation and analysis? How should the several systems interface? What are the problems of organizing to effect interfacing, as you see them in your local administrative unit?

3. Are there state, local, legal and/or governmental problems, restrictions, regulations or other impediments that must be considered?

4. What are some of the options open with regard to financing of such a system of vocational education information?

5. What are some of the problems of system management that must be anticipated in your local administrative unit?

6. Other?

Discussion on Solutions to the Problems

2:00 p.m. to 4:00 p.m.

1. What recommendations can be made as to how the identified issues and problems may be resolved?

2. What steps are needed, and which agencies should take the steps, in order to ensure that a National Vocational Education Information System will be responsive to the special needs of constituency groups?

3. What methods should be used to interface the proposed national system of vocational education information with any existing data systems, in order to maintain the integrity of the information with a minimum of restructuring existing systems? What "crosswalks" would need to be established?

4. Are there currently existing local sources of information not previously identified that could be utilized? What and where are they?

5. What suggestions can be provided concerning the uses of a Vocational Education Information System for purposes of decision-making in local:

a. planning and organization of vocational education, evaluation of outcomes;

b. financing vocational education programs on local and state levels;

c. utilization of facilities; and

d. determination of socioeconomic impacts of vocational education.